NOTICE OF DETERMINATION

To: Office of Planning and Research
State Clearinghouse
P.O. Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

From: Department of Toxic Substances Control
Anantaramam Peddada
5796 Corporate Avenue
Cypress, California 90630

Filing of Notice of Determination in Compliance with Public Resources Code, Division 13, Section 21108 or 21152.

Proposed Plan/ Remedial Action Plan Operable Unit 1A Installation Restoration Program (IRP 13S)
Project Title

2003081062	Anantaramam Peddada	(714) 484 / 5418
State Clearinghouse Number (If submitted to Clearinghouse)	Lead Agency Contact Person	Area Code/Telephone/Extension

Project Location (*Include County*):
Red Hill Avenue and Edinger Avenue, Orange County, Tustin, California, 92710. The geographic coordinates of former MCAS Tustin are 33 degrees 42 minutes 34 seconds North latitude and 117 degrees 49 minutes 30 seconds West longitude

Former MCAS Tustin is located within the cities of Tustin, and Irvine in Orange County, California, approximately one-half mile east of the Costa Mesa Freeway (State Route 55), between the San Diego (Interstate 405) and Santa Ana (Interstate 5) Freeways. The site is currently zoned by the City of Tustin as "MCAS Tustin Specific Plan."

Project Description:

The Navy proposes to remediate soil and groundwater contaminated by hazardous substances at Operable Unit (OU) 1A, Site 13S, which are located on the former Marine Corps Air Station (MCAS) Tustin. The original preferred remedy, described in a Proposed Plan dated August 2003; includes excavation of the contaminated soil, and on-site thermal treatment and reuse of the soil. After the Proposed Plan was presented to the public, additional information was obtained that indicated on-site thermal treatment and reuse of soil is no longer a viable option for soil disposal. This option was determined to be infeasible based on factors related to permitting of an on-site thermal treatment unit, utility connections, and additional treatment requirements. The Navy now proposes to excavate the contaminated soil and dispose of it at an off-site hazardous waste facility.

The proposed project consists of remedial actions recommended in the Navy's revised Proposed Plan (PP)/Draft Remedial Action Plan (RAP) and Fact Sheet dated February 2004, to address releases of hazardous substances to soil and groundwater at OU-1A, 13S at former MCAS Tustin. The PP/Draft RAP satisfies the requirements for remedying hazardous substance release sites pursuant to section 25356.1 of the California Health and Safety Code, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Title 40 of the Code of Federal Regulations, Sections 300.400 et seq.

The preferred remedial action consists of excavating soil contaminated by volatile organic compound (VOC) from a hot spot area, disposing this soil at a permitted facility, and extracting and treating VOC-contaminated groundwater from a hot spot area and containment wells. Hot spot areas are classified as soil and groundwater contamination areas that are characterized by the highest concentrations of VOC chemicals. The remediation of soil and groundwater hot spots will expedite the cleanup of groundwater.

OU-1A consists of a vehicle maintenance facility and wash pad known as IRP Site 13S. The site includes Buildings 16 and 50, formerly used for vehicle maintenance, and a former wash pad. The buildings and wash pad occupy an area of approximately 3,400 square yards in the northwestern corner of former MCAS Tustin. The lateral extent of the associated 1,2,3-trichloropropane (1,2,3-TCP) groundwater plume is approximately 27 acres. VOCs are the contaminants of concern at IRP-13S. Heavy metals were also identified at the site, but these were found at concentrations at or near expected background values so they are not addressed as part of this project.

first and second water bearing zones (WBZs). Extraction of groundwater from these containment wells will create a hydraulic barrier to restrict further migration of VOCs within the shallow aquifer. For the hot spot, groundwater will be extracted from the well installed in the hot spot of VOC contamination located within the plume. The hot spot well will supplement the containment wells.

Extracted groundwater from both containment and hotspot wells will be treated using a granular activated carbon (GAC) system to remove VOCs. After treatment, the clean water would be discharged to a storm drain that eventually flows to Peters Canyon Channel. The discharge of treated groundwater to Peters Canyon Channel will comply with the substantive provisions of the National Pollution Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board (RWQCB), Santa Ana Region.

It is anticipated that project construction activities will take approximately six months to complete. They will start in June 2005 and end in November 2005. The soil excavation will commence in January 2005 and last for one month. During the project construction activities, daily hours of operation will generally follow normal the business hours of 8 am to 5 pm. Once in place, the groundwater hot spot extraction well will be operated for approximately six years. The groundwater hydraulic containment wells and treatment systems will be operated for 30 years, or until contaminant concentrations are reduced to applicable VOC cleanup goals

To prevent the use of contaminated groundwater before remediation goals are met, there will be institutional controls, such as property deed restrictions to restrict future use of contaminated groundwater, and limit human exposure. In addition, the deed restrictions will protect wells and other equipment installed at the former MCAS Tustin from tampering.

Specifically, the preferred remedial action consists of the following activities.

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel This is consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.
- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

DTSC has prepared a Revised Initial Study pursuant to the requirements of the California Environmental Quality Act (CEQA, Section 21000 et seq , California Public Resources Code) and implementing Guideline (Section 15000 et seq , Title 14, California Code of Regulations). Based upon this analysis, DTSC has determined that the proposed project will not have a significant effect upon the environment

This is to advise that the Department of Toxic Substances Control (DTSC), a Lead Agency, has approved the above described project on 11/10/2004 and has made the following determinations regarding the above described project:

1. The project will not have a significant effect on the environment.
2. A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures were not made a condition of the approval of this project.
4. A Statement of Overriding Considerations was not adopted for this project.
5. Findings were made pursuant to the provisions of CEQA.

This is to certify that the final environmental document with comments and responses and record of project approval is available to the public at the following location: DTSC, 5796 Corporate Avenue,Cypress, California 90630

DTSC Branch Chief Signature

11/18/04
Date

John E.Scandura
DTSC Branch Chief Name

DTSC Branch Chief Title

(714) 484-5440
Phone #

TO BE COMPLETED BY OPR ONLY

Date Received For Filing and Posting at OPR: _____

NEGATIVE DECLARATION

Submitting: ☐ **Draft**
☒ **Final**
☐ **Mitigated Negative Declaration**

Project Title: Proposed Plan/ Remedial Action Plan Operable Unit 1A Installation Restoration Program (IRP- 13S)

State Clearinghouse Number: 2003081062

Contact Person: Anantaramam Peddada Phone # (714) 484-5418

Project Location (*Include County*):

Red Hill Avenue and Edinger Avenue, Orange County, Tustin, California, 92710. The geographic coordinates of former MCAS Tustin are 33 degrees 42 minutes 34 seconds North latitude and 117 degrees 49 minutes 30" seconds West longitude.

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Project Description:

The Navy proposes to remediate soil and groundwater contaminated by hazardous substances at Operable Unit (OU) 1A, Site 13S, which are located on the former Marine Corps Air Station (MCAS) Tustin. The original preferred remedy, described in a Proposed Plan dated August 2003; includes excavation of the contaminated soil, and on-site thermal treatment and reuse of the soil. After the Proposed Plan was presented to the public, additional information was obtained that indicated on-site thermal treatment and reuse of soil is no longer a viable option for soil disposal. This option was determined to be infeasible based on factors related to permitting of an on-site thermal treatment unit, utility connections, and additional treatment requirements. The Navy now proposes to excavate the contaminated soil and dispose of it at an off-site hazardous waste facility. DTSC prepared this Revised Negative Declaration to analyze the impacts of the proposed change.

The proposed project consists of remedial actions recommended in the Navy's revised Proposed Plan (PP)/Draft Remedial Action Plan (RAP) and Fact Sheet dated February 2004, to address releases of hazardous substances to soil and groundwater at OU-1A, 13S at former MCAS Tustin. The PP/Draft RAP satisfies the requirements for remedying hazardous substance release sites pursuant to section 25356.1 of the California Health and Safety Code, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Title 40 of the Code of Federal Regulations, Sections 300.400 et seq

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OU-1A consists of a vehicle maintenance facility and wash pad known as IRP Site 13S The site includes Buildings 16 and 50, formerly used for vehicle maintenance, and a former wash pad. The buildings and wash pad occupy an area of approximately 3,400 square yards in the northwestern corner of former MCAS Tustin. The lateral extent of the associated 1,2,3-trichloropropane (1,2,3-TCP) groundwater plume is approximately 27 acres. VOCs are the contaminants of concern at IRP-13S. Heavy metals were also identified at the site, but these were found at concentrations at or near expected background values so they are not addressed as part of this project

hydraulic barrier to restrict further migration of VOCs within the shallow aquifer. For the hot spot, groundwater will be extracted from the well installed in the hot spot of VOC contamination located within the plume. The hot spot well will supplement the containment wells.

Extracted groundwater from both containment and hotspot wells will be treated using a granular activated carbon (GAC) system to remove VOCs. After treatment, the clean water would be discharged to a storm drain that eventually flows to Peters Canyon Channel. The discharge of treated groundwater to Peters Canyon Channel will comply with the substantive provisions of the National Pollution Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board (RWQCB), Santa Ana Region.

It is anticipated that project construction activities will take approximately six months to complete. They will start in June 2005 and end in November 2005. The soil excavation will commence in January 2005 and last for one month. During the project construction activities, daily hours of operation will generally follow normal the business hours of 8 am to 5 pm. Once in place, the groundwater hot spot extraction well will be operated for approximately six years. The groundwater hydraulic containment wells and treatment systems will be operated for 30 years, or until contaminant concentrations are reduced to applicable VOC cleanup goals.

To prevent the use of contaminated groundwater before remediation goals are met, there will be institutional controls, such as property deed restrictions to restrict future use of contaminated groundwater, and limit human exposure. In addition, the deed restrictions will protect wells and other equipment installed at the former MCAS Tustin from tampering.

Specifically, the preferred remedial action consists of the following activities.

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel. This is consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.
- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

Findings of Significant Effect on Environment:

The Department of Toxic Substances Control has determined, on the basis of the Initial Study that there is no substantial evidence that this project will have a significant effect on the environment.

Mitigation Measures:

DTSC has determined that the project does not require any additional mitigation measures beyond those incorporated as part of the project.

State of California – California Environmental Protection Agency

Department of Toxic Substances Control

DTSC Branch Chief Signature

11/18/04
Date

John E. Scandura	Southern California Branch, Office of Military Facilities	(714) 484-5440
DTSC Branch Chief Name	DTSC Branch Chief Title	Phone #

CALIFORNIA ENVIRONMENTAL QUALITY ACT

REVISED INITIAL STUDY

The Department of Toxic Substances Control (DTSC) has completed the following Revised Initial Study for this project in accordance with the California Environmental Quality Act (§ 21000 et seq., California Public Resources Code) and implementing Guidelines (§15000 et seq , Title 14, California Code of Regulations). The Navy proposes to remediate soil and groundwater contaminated by hazardous substances at Operable Unit (OU) 1A, Site 13S, which is located on the former Marine Corps Air Station (MCAS) Tustin. The original preferred remedy, described in Proposed Plan dated August 2003; includes excavation of the contaminated soil, and on-site thermal treatment and reuse of soil. After the Proposed Plan was presented to the public, additional information was obtained indicating that on-site thermal treatment and reuse of soil is no longer a viable option for soil disposal. This option was determined to be infeasible based on factors related to permitting of an on-site thermal treatment unit, utility connections, and additional treatment requirements The Navy now proposes to excavate the contaminated soil and dispose of it at an off-site hazardous waste facility. DTSC preparing this Revised Initial Study to analyze the impacts due to proposed change.

The proposed project consists of remedial actions recommended in the Navy's revised Proposed Plan (PP)/Draft Remedial Action Plan (RAP), and Fact Sheet dated February 2004, to address releases of hazardous substances to soil and groundwater at OU-1A, IRP 13S at former MCAS. The PP/draft RAP satisfies the requirements for remedying hazardous substance release sites pursuant to section 25356.1 of the California Health and Safety Code, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and Subpart E of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Title 40 of the Code of Federal Regulations, Sections 300.400 et seq

DTSC issued an Initial Study for the original preferred remedy for public comment from August 8 through September 8, 2003 and received several comments on the Initial Study. These comments and DTSC's responses are located in Appendix B of this document. As noted in DTSC's responses, applicable comments have been incorporated into the project and added to the discussion of the project in this Revised Initial Study.

I. PROJECT INFORMATION

Project Name:

Operable Unit (OU) 1A, Installation Restoration Program (IRP) Site 13S
Vehicle Maintenance Facility and Wash Pad
Marine Corps Air Station (Former MCAS) Tustin
Proposed Plan/Draft Remedial Action Plan

Site Location:

Red Hill Avenue and Edinger Avenue, Tustin, California, 92710. The geographic coordinates of former MCAS Tustin are 33°42'34" North latitude and 117°49'30" West longitude.

Former MCAS Tustin is located within the cities of Tustin, and Irvine in Orange County, California, approximately one-half mile east of the Costa Mesa Freeway (State Route 55), between the San Diego (Interstate 405) and Santa Ana (Interstate 5) Freeways. The site is currently zoned by the City of Tustin as "MCAS Tustin Specific Plan (SP)" compatible with the City of Tustin's General Plan designation of "MCAS Tustin Specific Plan (SP)"

For reference, the following location maps are provided as attachments:

- Attachment B – Former MCAS Tustin Location Map
- Attachment C – Operable Unit 1A, Installation Restoration Program Site13S Location Map
- Attachment D – Alternative 7 Hydraulic Containment with Hot-Spot Source Removal Site Layout

Contact Person/ Address/ Phone Number:

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Base Realignment and Closure
Former MCAS Tustin
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Project Description:

The preferred remedial action consists of excavating soil contaminated by volatile organic compound (VOC) from a hot spot area, disposing this soil at a permitted facility, and extracting and treating VOC-contaminated groundwater from hot spot and containment wells. Hot spot areas are classified as soil and groundwater contamination that are characterized by the highest concentrations of VOC chemicals. Soil and groundwater hot spots cleanup will expedite the cleanup of groundwater.

OU-1A consists of a vehicle maintenance facility and wash pad known as IRP Site 13S. The site includes Buildings 16 and 50, formerly used for vehicle maintenance, and a former wash pad. The buildings and wash pad occupy an area of approximately 3,400 square yards in the northwestern corner of former MCAS Tustin. The lateral extent of the associated 1,2,3-trichloropropane (1,2,3-TCP) groundwater plume is approximately 27 acres. VOCs are the contaminants of concern at IRP-13S. Heavy metals were also identified at the site, but these were found at concentrations at or near expected background values so they are not addressed as part of this project.

For containment of contaminated groundwater, extraction wells will be placed along the leading edge of each plume in the first and second water bearing zones (WBZs). Extraction of groundwater from these containment wells will create a hydraulic barrier to restrict further migration of VOCs within the shallow aquifer. For the hot spot, groundwater will be extracted from the well installed within hot spot of VOC contamination located within the plume. The hot spot well will supplement the containment wells

Extracted groundwater from both containment and hotspot wells would be treated using a granular activated carbon (GAC) system to remove VOCs. After treatment, the clean water would be discharged to a storm drain that eventually flows to Peters Canyon Channel. Discharge of treated groundwater to Peters Canyon Channel will comply with the substantive provisions of the National Pollution Discharge Elimination System (NPDES) permit issued by the Regional Water Quality Control Board (RWQCB), Santa Ana Region.

It is anticipated that project construction activities will take approximately six months to complete. They will start in February 2006 and end in June 2006. The soil excavation will commence in May 2004 and last for one month. During project construction activities, daily hours of operation will generally follow normal the business hours of 8 am to 5 pm. Once in place, the groundwater hot spot extraction well will be operated for approximately six years. The groundwater hydraulic containment wells and treatment systems will be operated for 30 years, or until contaminant concentrations are reduced to applicable VOC cleanup goals.

To prevent the use of contaminated groundwater before remediation goals are met, there will be institutional controls, such as property deed restrictions to restrict future use of contaminated groundwater, and limit human exposure. In addition, the deed restrictions will allow protection of wells and other equipment installed at former MCAS Tustin from public.

VOCs are the contaminants of concern at IRP-13S. Heavy metals were also identified at the site, but these were found at concentrations at or near expected background values so they are not addressed as part of this project.

Table 1 shows contaminants of concern and remediation goals at OU-1A, IRP-13S (BNI 2003)

Table 1. Former MCAS Tustin OU-1A Contaminants of Concern and Remediation Goals

Contaminant	Detection Frequency [a]	Concentration Range (μg/L) [b]	Remediation Goal (μg/L) [b]	Basis for Goal
IRP-13S				
1,2,3-Trichloropropane	62/120	1.7 - 340	0.5*	
Trichloroethene (TCE)	56/120	1.3 – 310	5	Calif. MCL [c]

Table 1. Notes:
a Number of samples in which the contaminant was detected/total number of groundwater samples collected during the RI (BNI 1997a).
b μg/L: micrograms per liter.
c Maximum Contaminant Level.
* Proposed

Specifically, the preferred remedial action consists of the following activities.

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- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel. This is consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

The Navy [in conjunction with California Department of Toxic Substances Control (DTSC)] will retain responsibility for the oversight of remedial activities until the remedial action objectives for the site are achieved. In addition, if a determination is made in the future that the selected remedy is no longer protective of human health and the environment because the remedy failed to perform as expected, the DON is obligated to return to perform such additional cleanup as would be generally required by regulatory agencies. The Navy will retain ownership of the hydraulic containment and hot spot extraction wells recommended in the selected remedy until the time they are abandoned at the conclusion of the remedy, after the remedial action objectives are achieved.

Project Background:

Former MCAS Tustin encompasses about 1,600 acres within central Orange County, California. MCAS Tustin was commissioned from 1942 until 1999. On 14 May 2002, the Department of Navy transferred the majority of Former MCAS Tustin property surrounding IRP-13S to various public agencies. Additional property within the former housing areas at MCAS Tustin was sold through public sale in early 2003. The remaining property at the station that is under the control of the DON includes areas where environmental investigations or cleanup have yet to be conducted, including IRP-13S.

SOIL AND GROUNDWATER INVESTIGATIONS AT IRP-13S

OU-1A consists of IRP Site 13S (Vehicle Maintenance Facility and Wash Pad) that includes two buildings (Buildings 16 and 50, formerly used for vehicle maintenance), and a former wash pad. Building 16, Building 50 and the wash pad are also referenced as Areas of Concern (AOCs) ST-72A, ST-72B and MWA-18, respectively

The potential for subsurface contamination at ST-72 was first identified under the Navy Assessment and Control of Installation Pollutants program (Brown and Caldwell 1985) and was named as an area to be investigated under an Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA). A preliminary review (PR) and a visual site inspection (VSI) conducted at ST-72 indicated that hazardous substances may have been stored, handled, disposed of, or released at this site (JEG 1992, BNI 1997a). Two RFA sampling visits were conducted at ST-72 in 1995 and 1996 that involved collection of limited field data to address uncertainties remaining from the PR and VSI regarding the extent of soil and groundwater contamination. A screening-level risk assessment and a preliminary analysis of contaminant fate and transport were also performed

The first RFA sampling visit at ST-72 was completed between October 1995 and May 1996. Two temporary well points installed in the first WBZ confirmed the presence of VOCs including TCE, 1,2,3-TCP, Freon 113, and Freon 112 in groundwater. 1,2,3-TCP was identified as presenting the greatest human-health risk of the VOCs encountered at ST-72. Only trace concentrations (less than 5 micrograms per kilogram [µg/kg]) of VOCs were reported in soil samples collected between the ground surface and 15 feet below ground surface (bgs) (BNI 1997b).

In September 1996, a second RFA sampling visit was conducted to confirm the presence of 1,2,3-TCP in groundwater at ST-72 and to estimate its areal extent in the first WBZ. Based on results from this sampling, the presence of 1,2,3-TCP, TCE, and Freon 113 in groundwater at ST-72 was confirmed. The extent of 1,2,3-TCP in groundwater was larger than previously interpreted and was not fully delineated (BNI 1997b).

On the basis of the two RFA sampling visits, the DON determined that VOC contamination in the groundwater plume originating at ST-72 extended beyond the site's boundaries and would, therefore, be more appropriately managed under the CERCLA program. An RI for ST-72, now known as IRP-13S, was conducted between October 1996 and February 1997. The scope of the RI was expanded to include MWA-18, another suspected source of VOCs released to groundwater (BNI 1997b).

The RI conducted for ST-72 and MWA-18 was intended to confirm results obtained from previous RFA sampling visits, characterize geologic and hydrogeologic conditions at and downgradient of IRP-13S, determine the vertical and lateral extent of groundwater contamination, and characterize soil contamination in likely VOC source areas (BNI 1997b).

Quarterly groundwater monitoring has been conducted at IRP-13S since completion of the RI Report in 1997. 1,2,3-TCP was first reported in groundwater samples from the third WBZ during the September and December 1997 monitoring rounds. In 1998, a limited deep HydroPunch® investigation was conducted to evaluate potential mechanisms for migration of 1,2,3-TCP into the third WBZ and to determine the direction of groundwater flow and the extent of 1,2,3-TCP in the third WBZ at IRP-13S (BNI 1999). As a part of this investigation, three new monitoring wells were installed in crossgradient and downgradient limits of the 1,2,3-TCP plume in the third WBZ.

Based on data from previous RFA sampling visits, soil was excavated at MWA-18 and ST-72. MWA-18 consisted of a 50- by 56-foot concrete pad sloped to a drain. The concrete pad was removed and soil was excavated to a maximum depth of 3 feet bgs to remove total petroleum hydrocarbons (TPH) contamination. Four confirmation samples were taken from the bottom of the excavation and TPH concentrations were reported to be below target cleanup levels; however, TCE was reported in one sample collected at 3 feet bgs at a concentration of 11,000 µg/kg Based on these results, TCE-contaminated soil was found to exist at MWA-18 and was interpreted to be a potential source of TCE in groundwater. The site was, therefore, identified for CERCLA closure in association with IRP-13S.

Based on limited soil sampling performed adjacent to Building 16 during the RI, ST-72 was identified as the probable source of 1,2,3-TCP in groundwater. ST-72 was subsequently split into ST-72A and ST-72B. ST-72A consisted of a 40- by 47-foot concrete pad with a hydraulic lift. Based on further soil sampling results that indicated no reportable concentrations of 1,2,3-TCP in soil at the site, no excavation was required, and the DON recommended ST-72A for no further action.

Three stages of soil excavation were performed at ST-72B, which consisted of a 40- by 47-foot concrete pad with the remains of a hydraulic lift in the middle. Following the third stage of excavation, confirmation samples were collected from the sidewalls and bottom floor of the excavation. TPH as diesel was reported in soil samples collected at 12 feet bgs at concentrations exceeding target cleanup values. Further excavation typically would have been conducted; however, TCE was reported at concentrations of 30 and 76 µg/kg in samples collected at 12 and 6 feet bgs, respectively. TCE was not reported in any soil samples collected above 6 feet bgs; therefore, it was assumed that TCE contamination could be attributed to lateral migration from nearby site IRP-13S. Given the presence of TCE, the DON determined that ST-72B would undergo CERCLA closure in association with OU -1A.

In January 2002, a Time Critical Removal Action (TCRA) for 1,2, 3-TCP in groundwater was implemented at IRP-13S. The purpose of the TCRA was to initiate hydraulic containment of 1,2,3-TCP within the current boundaries of the plume in the first and second WBZs to prevent further vertical and horizontal migration until the final remedy is installed at the site or until plume migration is stabilized.

During the 1997, Remedial Investigation (RI), a baseline risk assessment was conducted to evaluate risks to human health from exposure to soil and groundwater at IRP-13S. The baseline risk assessment concluded that the groundwater contamination represented a potential human health concern if the shallow groundwater underlying OU-1A was to be used as a source of drinking water. However, the RI Report concluded that direct human contact with the VOC-affected soil at IRP-13S did not pose an unacceptable health risk. This report recommended that remedial actions address groundwater contamination associated with IRP-13S.

As part of the IRP-13S Feasibility Study, a second baseline risk assessment was performed to estimate the total risk to human health from all affected environmental soil and groundwater media within OU-1A, including two areas of concern. A Feasibility Study risk assessment concluded that risks to human health would arise primarily from potential exposure to shallow groundwater and that inhalation of groundwater vapors, such as exposure during showering would be the dominant pathway for exposure. The Feasibility Study risk assessments evaluated the total risk to human health from exposure to all affected media within the boundaries of OU-1A and the associated areas of concern under current and future conditions.

Estimates of cancer risks and the non-cancer risks were based on available data from the Remedial Investigation, Resource Recovery Act investigation, and routine quarterly groundwater monitoring. Risks from inhalation of volatile emissions from soil and groundwater into indoor air were also evaluated and included in the risk estimates. The results are based on U.S. EPA criteria for contaminants of concern, which are comparable to Cal/EPA criteria for assessing exposure risk to these chemicals. Risk estimates were made for hypothetical residents living at the site for 30 years assuming no cleanup actions are conducted. Under these conditions, with beneficial use of groundwater, total cancer risks exceed the generally allowable cancer risk range and non-cancer risks exceed the hazard index of 1. A hazard index of 1 or greater indicates that a lifetime of exposure to the chemical(s) may have potential for causing adverse health effects (e.g., respiratory or kidney problems) and should be evaluated further. The majority of cancer risks are associated with 1, 2, 3-TCP in shallow groundwater. Non-cancer risks are primarily associated with 1, 2, 3-TCP and selenium in groundwater. However, because selenium concentrations in groundwater do not exceed background concentrations, risks are related to selenium as a naturally occurring chemical at OU-1A. Inhalation of groundwater vapors is the dominant risk pathway. Under the conservative residential risk assessment approach, current human health risks at OU-1A warrant remedial action to reduce concentrations of 1, 2, 3-TCP in groundwater.

Risk estimates for current conditions with non-beneficial use of groundwater also used the hypothetical resident living on the site for 30 years, assuming no cleanup actions are implemented. The non-beneficial use scenario, which is considered to be a more realistic risk assessment approach, was evaluated to determine if institutional controls and/or restrictions would be required for indoor occupancy of existing and newly constructed buildings at the site. The results indicate that with institutional controls (to prevent domestic use of groundwater) in place, cancer risks fall within the generally allowable risk range for cancer risk. The majority of the cancer risk is associated with exposure to TCE and 1, 2, 3-TCP through inhalation of soil vapor. The non-cancer risks do not exceed the hazard index of 1. Based on the results of this risk assessment, institutional controls would be effective in protecting human health and allow for reuse of existing and newly constructed buildings.

Estimates for future risks with beneficial groundwater use were made for hypothetical residents living at the site for 30 years after the Marine Corps' preferred alternative developed in the Feasibility Study has been implemented. Under these conditions, if the preferred alternative is implemented at OU-1A, total cancer risks would be reduced approximately 92 percent from current conditions, but would still exceed the generally allowable risk range (one in one million to ten in one million). The principal chemical contributing to the cancer risk is 1, 2, 3-TCP in groundwater. This future conditions scenario represents an approximate 49 percent reduction in non-cancer risks; however, it would still exceed the hazard index threshold value of 1. The majority of non-cancer risk is associated with 1, 2, 3-TCP and selenium in groundwater and manganese, a naturally occurring metal, in soil. The above scenarios were derived from conservative assumptions. The actual risks posed to residents under future conditions are expected to be less than predicted based on the effectiveness of institutional controls.

References:

BNI, 2003

Agencies Having Jurisdiction over the Project/ Types of Permits Required:

California Regional Water Quality Control Board (RWQCB), Santa Ana Region/National Pollutant Discharge Elimination System (NPDES) permit.

Orange County Flood Control District/encroachment permits for discharge into storm drainage system.

II. DISCRETIONARY APPROVAL ACTION BEING CONSIDERED BY DTSC

- ❑ Initial Permit Issuance
- ❑ Permit Renewal
- ❑ Permit Modification
- ❑ Closure Plan
- ❑ Regulations
- ■ Remedial Action Plan
- ❑ Removal Action Workplan
- ❑ Interim Removal
- ❑ Other (Specify) _____

Program/ Region Approving Project:

DTSC Site Mitigation Program
Office of Military Facilities,
Southern California Branch – Cypress Office

Contact Person/Address/Phone Number:

Anantaramam Peddada
Remedial Project Manager
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630
(714) 484-5418

III. ENVIRONMENTAL RESOURCES POTENTIALLY AFFECTED

The boxes checked below identify environmental resources which were found in the following ENVIRONMENTAL SETTING/IMPACT ANALYSIS section to be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact"

- ❑ Aesthetics
- ❑ Agricultural Resources
- ❑ Air Quality
- ❑ Biological Resources
- ❑ Cultural Resources
- ❑ Geology And Soils
- ❑ Hazards and Hazardous Materials
- ❑ Hazards and Hazardous Materials
- ❑ Hydrology and Water Quality
- ❑ Land Use and Planning
- ❑ Mineral Resources
- ❑ Noise
- ❑ Population and Housing
- ❑ Public Services
- ❑ Recreation
- ❑ Transportation and Traffic
- ❑ Utilities and Service Systems
- ❑ Cumulative Effects

IV. ENVIRONMENTAL IMPACT ANALYSIS

The following pages provide a brief description of the physical environmental resources that exist within the area affected by the proposed project and an analysis of whether or not those resources will be potentially impacted by the proposed project. Preparation of this section follows guidance provided in DTSC's California Environmental Quality Act Initial Study Workbook [Workbook]. A list of references used to support the following discussion and analysis are contained in Attachment A and are referenced within each section below.

Mitigation measures which are made a part of the project (e.g: permit condition) or which are required under a separate Mitigation Measure Monitoring or Reporting Plan which either avoid or reduce impacts to a level of insignificance are identified in the analysis within each section.

1. Aesthetics

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.

Description of Environmental Setting:

The project site is located in an urban industrialized area on former MCAS Tustin that is currently unoccupied. The base was closed on July 1999. The base property is currently zoned as MCAS Specific Plan and is situated on approximately 1,600 acres in Orange County, California. Most of the former base lies within the city of Tustin, with portions of the base bordering the cities of Santa Ana and Irvine. Development on the base, including military housing and infrastructure, occupies all but 530 acres.

OU-1A consists of IRP Site 13S (Vehicle Maintenance Facility and Wash Pad) that includes two buildings (Buildings 16 and 50, formerly used for vehicle maintenance), and a former wash pad. Building 16, Building 50 and the wash pad are also referenced as AOCs ST-72A, ST-72B and MWA-18, respectively. The buildings and wash pad occupy an area of approximately 3,400 square yards in the northwestern corner of former MCAS Tustin. The lateral extent of the associated 1,2,3-TCP groundwater plume is approximately 27 acres.

IRP-13S is associated with a former industrial area of the base that is presently vacant.

The general visual characteristic of former MCAS Tustin is that of unvaried, level terrain, punctuated by pockets of buildings and structures of differing size; large concrete areas (associated with aircraft facilities), open agricultural land, and infrastructure elements such as roads, parking lots, and utility lines.

Analysis of Potential Impacts:

The proposed project consists of groundwater extraction and soil excavation due to VOC contamination. Soil will be excavated from one area and following excavation, the contaminated soil will be placed directly on trucks and transported to a class 1 off site facility for disposal (Kettleman City Hazardous Waste Disposal Facility). The proposed project will also consist of construction of groundwater extraction and monitoring wells, ancillary piping, and a GAC system. However, if feasible existing TCRA GAC system may be used. The GAC system will be surrounded by a security fence. Drilling activities will be conducted during normal business hours using portable drill rigs. Monitoring well vaults will be flush with the ground surface. The piping will be located below grade. Extraction wells will be located below ground surface and screened at the required depth to meet engineering specifications. Installation and completion of the extraction wells would be in accordance with the substantive requirements of Orange County Ordinance No. 2607. In addition, the wells would be constructed to meet California Department of Water Resources (DWR) operations and safety and health standards. Fencing for the groundwater treatment system will be installed to protect and screen the system from view.

It is anticipated that project construction activities (including soil excavation, well drilling and installation of the GAC system) will take approximately six months to complete, starting in February 2006 and ending in June 2006 except the soil excavation will commence in May 2004 and lasts about a month. During project construction activities, daily hours of operation will generally follow normal business hours (i.e., 8 am to 5 pm). Once in place, the groundwater hot spot extraction well will be operated for approximately 6 years and the groundwater hydraulic containment wells will be operated for approximately 30 years and be turned off after contaminant concentrations are reduced to applicable VOC MCL levels.

Given that the project construction activities are temporary, are being conducted in unoccupied and vacant areas of the former base, aesthetic impacts from project activities will be less than significant Visual and aesthetic impacts from installation and operation of the long-term groundwater treatment system will also be less than significant because wells and piping will be installed flush with the ground surface or underground, and the treatment system (pump and treat unit, etc.) will be fenced and screened.

Therefore, the project activities would not:

a. Have a substantial adverse effect on a scenic vista.

   The project site area does not include any scenic vistas; therefore, project activities will not have an adverse effect on any scenic vista.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway

   The project site is not located along or near a state scenic highway; therefore, it will not damage any scenic resources associated with a state scenic highway.

c. Substantially degrade the existing visual character or quality of the site and its surroundings

   Since the project is located in a former industrialized area no longer in use of the base due to base closure, project construction activities are temporary, and excavations and wells will be restored or placed consistent with pre-project grade, the project should not substantially degrade the existing visual character of the site.

d. Create a new source of substantial light of glare, which would adversely affect day or nighttime views in the area.

   All project construction activities are temporary and site excavations will be backfilled to pre-project grade. In addition, most groundwater treatment system elements will be below ground surface. Given the amount of concrete already in the area (from aircraft runways and parking lots, etc.) which may serve as a source for glare, both the temporary project construction activities and long-term operation of groundwater treatment system are not expected to create a substantial new source for glare.

References:

BNI, 2003

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

2. Agricultural Resources

Project activities likely to create an impact:

None

Description of Environmental Setting:

The United States Natural Resources Conservation Service (NRCS) classifies suitability of an area for agricultural use based on physical and chemical features of the land. The NRCS has the following seven farmland classifications: Prime Farmland (P), Farmland of Statewide Importance (S), Unique Farmland (U), Farmland of Local Importance (L), Grazing Land (G), Urban and Built-up Land (D), and Other Land (X).

IRP-13S is primarily located in an area classified as Urban and Built-up Land (D) in which the land is occupied by structures or infrastructure to accommodate a building density of at least one unit to one and one-half acres, or approximately six structures to ten acres.

Analysis of Potential Impacts:

IRP-13S is located in areas classified as Urban and Built-up Land The project will have no impact on agricultural resources since there is no farmland close to the site.

Therefore, project activities would not:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

   The project activities will not disturb areas designated as Prime Farmland, and the project will not permanently convert farmland to non-agricultural uses

b. Conflict with existing zoning or agriculture use, or Williamson Act contract.

   Former MCAS Tustin properties are not enrolled under a Williamson Act contract and project activities are consistent with the current land use designations in the area.

c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural uses.

   There is no existing farming activity at the site.

References:

Tustin et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ■ No Impact

3. Air Quality

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

Former MCAS Tustin is located within the South Coast Air Basin, which is a 6,600-square mile area that encompasses all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. In the Tustin area, the coolest months are November through March, with an average temperature of 59 degrees Fahrenheit (°F) and the warmest months are July through September, with an average temperature of 70°F. The mean annual precipitation at former MCAS Tustin is 11.4 inches. Ninety-nine percent of the annual precipitation occurs November through April

Predominant daily winds consist of a morning onshore airflow from the west/southwest and afternoon and evening offshore airflows from the north/northeast with little variability between seasons. The typical wind condition is from the west/southwest at less than approximately 11 miles per hour. The prevailing winds carry air contaminants east and northward. On occasion, during the fall and winter months, offshore winds, referred to as Santa Ana winds, may develop as a result of a high-pressure system situated over the Mojave and Colorado deserts and the Great Basin east of the South Coast Air Basin. Santa Ana winds are usually warm and dry, and can reach speeds in excess of 50 miles per hour.

The California Air Resources Board (CARB) designates areas of attainment, nonattainment, or unclassified for each of the pollutants for which state ambient air quality standards have been established. Currently, standards have been established for nine criteria pollutants, including ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulate matter, sulfates, lead, hydrogen sulfide and visibility-reducing particles. According to the 2000 State Area Designation Maps of California (based on data collected during the period 1997 to 1999), all areas in the State are either designated as attainment or unclassified areas for nitrogen dioxide, sulfur dioxide, lead and visibility-reducing particles. The project is located in an air basin designated as a nonattainment area for ozone (O3), suspended particulate matter (PM-10) and carbon monoxide (CO).

Air emissions in the project area are regulated by the SCAQMD. An Air Quality Impact Analysis was prepared for this project in accordance with the SCAQMD's California Environmental Quality Act (CEQA) Handbook (April 1993), and is presented in Appendix A. The air quality impacts of the project are below that which would be considered significant (Table A-1 in Appendix A).

Analysis of Potential Impacts:

Temporary emissions associated with project activities include vehicle emissions, construction equipment emissions, and dust from soil excavation and trenching. Equipment used for construction will include trucks, a backhoe and loader. Standard internal combustion engines (such as those used in passenger vehicles, trucks, and heavy equipment) will have the required smog abatement equipment installed as required within the South Coast Air Basin to control emissions. Appropriate dust control features will be instituted for all soil excavation such as use of water spray at least two times daily and suspending excavation activities when winds exceed 25 miles per hour, and compacting backfilled excavation areas. Excavation equipment and trucks used in soil transport will also be washed down prior to leaving the project site to further control fugitive dust. Soil excavation and grading will only be performed at one hot spot location (covering approximately 0.7 acres); daily excavation and grading activities will not exceed the SCAQMD daily threshold levels.

The proposed project consists of extraction and treatment of VOC-contaminated groundwater. The extracted groundwater will be treated using a GAC system. Since the contaminated groundwater is being treated directly, air emissions are not anticipated. As a result, a SCAQMD permit for air emissions from the GAC is not needed.

Since project construction activities will be time-limited, undertaken according to applicable SCAQMD construction best management practices, and do not exceed screening levels for construction thresholds of significance; and all treatment units will be operated according to applicable SCAQMD emission requirements, air quality impacts from project activities are judged to be less than significant.

Rules and regulations that may apply and which will be strictly adhered to include:

Rule 401 – Visible Emissions. This rule prohibits single source emissions to the atmosphere that would create unacceptable opacity levels set forth by the SCAQMD.

Rule 402 – Nuisance. The rule prohibits the discharge of emissions from any source in which quantities of air contaminants may cause injury, detriment, nuisance, or annoyance to the public. The rule also prohibits emissions that may endanger the comfort, repose, health or safety of the public.

Rule 403- Fugitive Dust. This rule provides for minimizing fugitive dust emissions beyond the property line of the emission source. To comply with SCAQMD Rule 403, dust monitoring will be conducted (dust monitoring may be conducted using a Miniram dust meter [PDM-3 or equivalent.]) for particulate matter (PM_{10}). The location for the air samplers will be based on the prevailing wind directions and location of emissions sources. The air samplers will be primarily used to monitor dust levels at the Site perimeter. According to Rule 403, PM_{10} levels should not exceed 50 $\mu g/m^3$; determined as the difference between upwind and downwind samples.

Rule 1166 – SCAQMD Rule 1166 regulates volatile organic emissions from decontamination of soil.

The project will not degrade air resources which will individually or cumulatively result in a loss of biological diversity among plants and animals Onsite placement and compaction of soil will be conducted in accordance with the rules and regulations of the SCAQMD. The effect of this project on air quality, if any, is temporary and in a very short period of time. The project does not have any permanent or cumulative effect on air quality. The chemicals of concern at the Site (e.g. PAHs) do not elevate the temperature, do not generate or release potential ozone depleting gases, significant objectionable odors, or other toxic air contaminants.

Substantial amounts of dust are not expected from soil removal activities Protective measures that will be employed during soil excavation, and transportation activities, will include keeping exposed soil moistened in areas of activity, covering trucks, or maintaining at least 2 feet of freeboard above truck loads. These measures should keep fugitive dust emissions to insignificant levels.

The removal action activities will be conducted onsite. Objectionable odors are not anticipated based on the known contaminants, the removal action approach, and environmental control systems to be implemented will include:

- Use of water spray at least two times daily to reduce emissions from exposed soils (50% control efficiency for PM10);
- Use of equipment with low exhaust emissions;
- Keep vehicles tuned to manufacturer specifications (5%control efficiency for NOx);
- Enclose, cover, water twice daily, or apply non-toxic soil binders in accordance with manufacturer's specifications, to exposed piles (i.e., gravel, sand dirt) with 5% or greater silt content;
- Routine monitoring of excavations and Site perimeter using a flame ionization detector (to monitor VOCs); and
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer) in accordance with the requirements of Civil Vehicle Code Section 23114 of the SCAQMD (7-14% control efficiency for PM10).

Dust control implementation will prevent significant degradation of air sources which will individually or cumulatively result in a loss of biological diversity among the plants and animals residing in that air.

Therefore, the project activities would not:

a. Conflict with or obstruct implementation of the applicable air quality plan.

The SCAQMD has established long-term daily significance thresholds for projects in the Basin. These thresholds are described in Chapter 6 of the SQAMD's CEQA Handbook. A project's impact is considered significant if long-term operational emissions exceed any of these thresholds. Based on the project description, there will be no long-term emission impacts. Therefore, the project will not conflict with or obstruct the implementation of the current applicable air quality plan. In addition, project activities will be performed in compliance with applicable state and local air quality requirements, the project will not conflict with or obstruct implementation of any air quality plans.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Project activities will be conducted according to SCAQMD requirements; consequently, violations of air quality standards are not expected. If the volatile organic emissions exceed 1000 parts per million (ppm) during excavation of the soil appropriate action will be taken.

c. Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Project activities do not exceed SCAQMD short or long-term significant impacts and all treatment units will be operated in accordance with applicable SCAQMD requirements. Therefore, the project is judged to not result in any cumulatively considerable net increase of criteria pollutants.

d. Expose sensitive receptors to substantial pollutant concentrations.

Receptors considered sensitive to air pollution are facilities resulting in a concentration of people, especially children, seniors, or the chronically ill. The closest sensitive receptors to the project site would be located in the existing residential area approximately one-half mile from the site Because of the controls placed on project emissions and the distance from the project site,

sensitive receptors will not be exposed to substantial pollutant concentrations from project activities. The SCAQMD rules will be followed throughout project implementation. Preventative measures include wetting of soils and air monitoring for VOCs to assure requirements are met.

e. Create objectionable odors affecting a substantial number of people.

The activities associated with the proposed project are not expected to create objectionable odors. In the event that odors are created, the lead agency will comply with SCAQMD Rule 402-Nuisance.

References:

BNI, 2003
CARB, 2001
Tustin, et al., 1999
SCAQMD, 1993

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

4. Biological Resources

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel. This is consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

Vegetation in the project area is generally categorized as non-native grassland and ornamental landscaping. Agricultural and historic military uses at former MCAS Tustin have resulted in clearing of the native vegetation. Due to recent and continuing activities, the existing cultivated fields and landscaped areas do not provide suitable habitat for rare or sensitive plant species. In addition, the industrial land uses in the project area limit the site's value as wildlife habitat. The project area environment has been highly disturbed by both military and agricultural activities and most of the project area is covered by buildings, concrete runways, asphalt paved areas, or highly disturbed or cultivated land.

There are approximately 29 acres of jurisdictional waters and 2.4 acres of vegetated or seasonal wetlands at former MCAS Tustin. However, none of these wetlands sites are in close proximity to project area IRP-13S.

Southwestern pond turtles, identified as a "species of concern" by the California Department of Fish and Game (CDFG) Rarefind report (Tustin quadrangle) identified at former MCAS Tustin in a drainage channel known as San Joaquin Ditch in June of 1993. San Joaquin Ditch is located in the southeastern portion of former MCAS Tustin, between Jamboree Road and family housing adjacent to Harvard Avenue. It is a narrow, V-shaped flood control channel without nesting habitat within its banks. To build nests, the turtles must climb out of the channel and use adjacent upland habitat. The adjacent upland habitat in the project area is disturbed land/fields with compacted soil. There is no appropriate nesting habitat for the turtles at the project site. Updated information from the July 13, 2003 CDFG report did not list more recent findings for southwestern pond turtles in the Peters Canyon Channel or in the San Joaquin Ditch.

The proposed project will generate approximately 18 gallons per minute (gpm) of treated effluent from the groundwater treatment system that will be discharged to the Peters Canyon Channel. The treated clean groundwater will be discharged in accordance with the Santa Ana Regional Water Quality Control Board (RWQCB) discharge permit requirements and will not pose harm to the to existing or potential habitat.

Peters Canyon Channel is an unlined drainage ditch, traversing former MCAS Tustin from Edinger Avenue to Barranca Parkway.

While not included in a CDFG 2002 report from the Natural Diversity Data Base, the former MCAS Tustin 1999 Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) states that four loggerhead shrikes, identified as a species of concern by CDFG, were observed on the base in March 1993. The shrikes may nest onsite at former MCAS Tustin but no nests have been reported at or near the project site. The species is somewhat tolerant of urban and suburban development and can also be found nesting within city boundaries in many locations. However, there are no undisturbed areas around the project site; consequently, potential nesting (in shrubs and trees) in the project area is not expected.

Analysis of Potential Impacts:

Since there is no suitable habitat at the project site and no known rare, threatened, endangered, or candidate animal or plant species were identified at the project site, significant disturbances to animal or plant life due to the proposed project are not expected. For discussion of effluent discharge to the Peters Canyon Channel see under Hydrology and Water Quality Analysis of Potential Impacts.

Therefore, the project activities would not:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

   While Southwestern pond turtles, identified as a "species of concern" by the CDFG, have been identified at former MCAS Tustin in San Joaquin Ditch, there is no appropriate nesting habitat for the turtles at the project site. In addition, no pond turtles or sensitive species have been identified in Peter's Canyon Channel where treated groundwater will be discharged. The groundwater will be discharged in accordance with the RWQCB discharge permit requirements. The maximum magnitude of the discharge of clean treated water is anticipated to be approximately 18 gpm of treated water for the first 6 years of operation and about 12 gpm of treated water for years 6 to 30 of operation after the remedy is implemented. This level of discharge is not expected to result in excess surface water ponding that could change the habitat of vegetation and animals currently present in Peters Canyon Channel. Without excessive pooling, invasive species such as the bullfrog and *arundo donax* are not anticipated to present a problem. *Arundo donax* presents a potential problem where excessive pooling is present and if an *arundo donax* population is present upstream No *arundo donax* has been observed in Peters Canyon channel.

   Therefore, project activities will not have a substantial adverse effect on candidate, sensitive, or status species.

   Substantial adverse effects on loggerhead shrikes are also not expected because no undisturbed nesting sites are available in the project area.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

   The project site does not contain any riparian habitat or other sensitive natural community.

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

   None of the potential wetlands sites identified at former MCAS Tustin are in close proximity to project area IRP-13S; consequently, project activities will not impact these wetlands. In addition,

discharges into Peter's Canyon Channel, a potential jurisdictional wetland, will be very small (18 gpm for the first 6 years of operation and decreasing to less than 12 gpm for years 6 through 30) and will have no significant hydrologic impact in the channel.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Project construction activities are time-limited and no native migratory fish or wildlife species or migratory corridors have been identified at the project site. Therefore, project activities will have no significant effect on fish or wildlife migration.

e. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

No local policies or ordinances protecting biological resources are known to apply to activities at former MCAS Tustin

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

No habitat conservation plans or provisions currently apply at former MCAS Tustin

References:

CDFG, Tustin quadrangle, 2003
Tustin, et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ■ No Impact

5. Cultural Resources

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.

Description of Environmental Setting:

Previous archaeological surveys, geotechnical log borings from drilling efforts for local wells, and record searches reveal evidence of paleontological resources beneath former MCAS Tustin. Formations from the Pleistocene (2 million to 10,000 years ago) and Recent (10,000 years ago to present) period are identified as having moderate to high sensitivity for paleontological resources. At former MCAS Tustin, these sediments occur between the site surface and 280 feet in depth. These formations correlated to the 30 feet of Holocene alluvium and 250 feet of older alluvium. The fossil-bearing formation underlies virtually all of former MCAS Tustin No archaeological sites are known to occur at the project location. Human remains are not known to occur at the project location.

Analysis of Potential Impacts:

Section 4.6 of the Final EIS/EIR states that the State Historic Preservation Office (SHPO) concurred with the assessment that the former Air station has been adequately surveyed. The surveys of the former Air Station resulted in the recording of only one site (CA-ORA-381) which was located in the northwestern part of the former Air Station near Red Hill Avenue. The Final EIS/EIR states that this site (CA-ORA-381) is not considered significant due to its lack of integrity, and that implementation of the Reuse Plan would not have been adverse affect on the known archaeological resource.

The Final EIS/EIR also states that due to the presence of shells on the Base, it is possible that buried archaeological resources exist at the site and that these resources could be potentially impacted during excavation activities. DTSC will insure that the work plan for the excavations will include provisions for retaining a county-certified archaeologist, and a county-certified paleontologist. If buried resources and/or human remains are found during excavation at the site, county-certified archaeologist will need to assess the site significance and perform the appropriate mitigation Native American view point will be also considered during this process. If burials are discovered, the Orange County Sheriff-Coroner Department will be contacted and requested to be present during removal of human remains pursuant to Section 2050.5 of the California Health and Safety Code. If remains are determined to be prehistoric, the Native American Heritage Commission (NAHC) will be notified. The NAHC will then designate a most likely descendant (MLD).

Describe to what extent project activities would:

a. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.

No project activities are proposed near buildings listed on the National Register.

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5.

No archeological resources have been identified at or near the project site. Therefore, project activities will not cause any substantial adverse change in the significance of an archeological resource. However, it is possible that buried archaeological resources exist at the site and that these resources could be potentially impacted during excavation. DTSC will insure that the work plan for the excavations will include provisions for retaining a county-certified archaeologist, and a county-certified paleontologist. If buried resources and/or human remains are found during excavation at the site, county-certified archaeologist will need to assess the site significance and perform the appropriate mitigation.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Potentially fossil bearing formations are known to underlie the project location; however, the proposed project is not expected to encounter significant pale ontological resources Navy will retain a county-certified paleontologist to conduct salvage excavation of unique paleontological resources if they are found.

d. Disturb any human remains, including those interred outside of formal cemeteries.

Human remains are not known to occur at the project location. If human remains are unearthed, field work will be stopped, and the Orange County Sheriff-Coroner Department will be contacted and requested to be present during removal of human remains pursuant to Section 2050.5 of the California Health and Safety Code. If remains are determined to be prehistoric, the Native American Heritage Commission (NAHC) will be notified. The NAHC will then designate a most likely descendant (MLD).

References:

BNI, 2003
Tustin, et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

6. Geology and Soils

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel. This is consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

Former MCAS Tustin ranges in elevation from 45 feet to 60 feet above sea level with relatively flat topography. The site it approximately 9 miles inland from the Pacific Ocean and man-made drainage channels carry local stormwater and treated effluents west to the ocean.

The surface soil in the project site area has been mapped as Chino silty clay loam (drained). Approximately 1,400 feet of unconsolidated to semi-consolidated sediments underlie former MCAS Tustin and consist of approximately 30 feet of Holocene (recent) alluvium underlain by 250 feet of older alluvium. This is further underlain by an alluvial layer approximately 1,100 feet thick, consisting of semi-consolidated sand gravel and fine-grained lagoon and shallow marine deposits. Older bedrock units of semi-consolidated sandstone, siltstone, shale, and conglomerate lenses underlie this sequence. The older units are approximately 2,000 to 2,500 feet thick.

Former MCAS Tustin lies within a region of Southern California which is known to be seismically active. Three faults closest to former MCAS Tustin are the Newport-Inglewood Fault located 6 miles southwest, the Whittier Fault located 14 miles northeast, and the Elsinore Fault located 14 miles east. At former MCAS Tustin, the primary potential earthquake hazard is ground shaking. Former MCAS Tustin also lies within a liquefaction hazard zone as mapped by the California Division of Mines and Geology. Landslides have not been identified at former MCAS Tustin and are not considered likely to occur in the future due to the relatively flat topography of the site and surrounding region. Compressible soils susceptible to some consolidation and expansive soils with high to very high expansivity may also be encountered at former MCAS Tustin on a site-specific basis due to variations in near-surface sediments.

Analysis of Potential Impacts:

Although the proposed project is located in an area with potential for compressible and expansive soils and where seismic ground shaking and liquefaction is possible, the extraction and treatment system will be equipped with secondary containment and appropriate automatic shutoff valves to prevent tank

overflows should the transfer pump fail. Additionally, surge tanks will be connected to the extraction wells to contain extraction groundwater in the event that the treatment system becomes inoperable. Excavations will be shored as necessary. Backfilled excavation areas will also be compacted to prevent erosion and dust.

The proposed project will also generate effluent from the treatment system that will be discharged to the Peters Canyon Channel. Peters Canyon Channel is an unlined drainage ditch, traversing former MCAS Tustin from Edinger Avenue to Barranca Parkway. Since the treated groundwater will be discharged through a storm drain to Peters Canyon Channel, the proposed project will not result in substantial soil erosion or the loss of topsoil.

Describe to what extent project activities would:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Publication 42)

  The project site is not located within an Alquist-Priolo Earthquake Fault Zone, and no active or potentially active fault is known to exist at the ground surface in, or immediately adjacent to, the site.

- Strong seismic ground shaking

  While former MCAS Tustin lies within a region of Southern California which is known to be seismically active and strong ground shaking is possible in the event of a major earthquake, the main project activities (construction, excavation, etc.) are very time-limited and will not expose people to seismic risks over and above those normal for living in this southern California region.

- Seismic-related ground failure, including liquefaction

  As with seismic-related ground shaking, ground failure in the project area is possible in the event of a major earthquake. However, the main project activities (construction, excavation, etc.) are very time-limited and will not expose people to seismic risks over and above those normal for living in this southern California region.

- Landslides

  Landslides in the project area are not anticipated because land in the project area is nearly level and no steep mountain areas are near the site.

b. Result in substantial soil erosion or the loss of topsoil

All excavations will be backfilled and appropriately compacted to prevent loss of topsoil and soil erosion. Therefore, project activities will not result in substantial soil erosion or loss of topsoil.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse

Although the proposed project is located in an area with potential for compressible and expansive soils and where seismic ground shaking and liquefaction is possible, project activities will not add

significant weight or water to cause soil to become unstable and slide, spread, subside, liquefy, or collapse. All excavations will be shored as necessary to prevent collapse. Backfilled excavation areas will also be compacted to prevent subsidence.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Expansive soil may be encountered in the project area on a discontinuous, site-specific basis However, soil excavations and construction activities will be time-limited and performed according to appropriate construction best management practices and OSHA worker safety requirements; consequently, there should be no substantial risks to life or property from project construction; activities. In addition, since the long-term groundwater treatment system will be an un-manned, small pumping system, operation of the system will not create any substantial risks to life or property due to possible expansive soil in the project area.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of water.

Soils in the project area have not been shown to be incapable of supporting temporary holding tanks or treatment equipment to be used during project activities. No septic tanks will be utilized for project activities and disposal of water will be accomplished via existing stormwater culverts.

References:

BNI, 2003
Tustin, et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

7. Hazards and Hazardous Materials

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel. This is consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

OU-1A is composed of groundwater contamination at IRP-13S.

OU-1A consists of one IRP site 13S (Vehicle Maintenance Facility and Wash Pad) that includes two buildings (Buildings 16 and 50, formerly used for vehicle maintenance), and a former wash pad Building 16, Building 50 and the wash pad are also referenced as AOCs ST-72A, ST-72B and MWA-18, respectively. The buildings and wash pad occupy an area of approximately 3,400 square yards in the northwestern corner of former MCAS Tustin. The lateral extent of the associated 1,2,3-TCP groundwater plume is approximately 27 acres.

A complete discussion of risk assessments conducted at the site is provided in the Project Description. As part of the IRP-13S Feasibility Study, a second baseline risk assessment was performed to estimate the total risk to human health from all affected environmental media (soil and groundwater) within OU-1A, including two areas of concern. The Feasibility risk assessment concluded that risks to human health would arise primarily from potential exposure to shallow groundwater and that inhalation of groundwater vapors (e.g., exposure during showering) would be the dominant pathway for exposure. The Feasibility Study risk assessments evaluated the total risk to human health from exposure to all affected media within the boundaries of OU-1A and the associated areas of concern under current and future conditions. Estimates of cancer risks and the non-cancer risks (hazard indexes) were based on available data from the Remedial Investigation, Resource Recovery Act investigation, and routine quarterly groundwater monitoring. Risks from inhalation of volatile (gas) emissions from soil and groundwater into indoor air were also evaluated and included in the risk estimates. The results are based on U.S. EPA criteria for contaminants of concern, which are comparable to Cal/EPA criteria for assessing exposure risk to these chemicals. Risk estimates were made for hypothetical residents living at the site for 30 years assuming no cleanup actions are conducted. Under these conditions, with beneficial use of groundwater, total cancer risks exceed the generally allowable cancer risk range and non-cancer risks exceed the hazard index of 1. A hazard index of 1 or greater indicates that a lifetime of exposure to the chemical(s) may have potential for causing adverse health effects (e.g., respiratory or kidney problems) and should be evaluated further. The majority of cancer risks are associated with 1,2,3-TCP in shallow groundwater.

Non-cancer risks are primarily associated with 1, 2, 3-TCP and selenium in groundwater. Inhalation of groundwater vapors is the dominant risk pathway. Under the conservative residential risk assessment approach, current human health risks at OU-1A warrant remedial action to reduce concentrations of 1, 2, 3-TCP in groundwater.

Risk estimates for current conditions with non-beneficial use of groundwater also used the hypothetical resident living on the site for 30 years, assuming no cleanup actions are implemented. The non-beneficial use scenario, which is considered to be a more realistic risk assessment approach, was evaluated to determine if institutional controls and/or restrictions would be required for indoor occupancy of existing and newly constructed buildings at the site. The results indicate that with institutional controls (to prevent domestic use of groundwater) in place, cancer risks fall within the generally allowable risk range for cancer risk. The majority of the cancer risk is associated with exposure to TCE and 1, 2, 3-TCP through inhalation of soil vapor. The non-cancer risks do not exceed the hazard index of 1. Based on the results of this risk assessment, institutional controls would be effective in protecting human health and allow for reuse of existing and newly constructed buildings.

Estimates for future risks with beneficial groundwater use were made for hypothetical residents living at the site for 30 years after the Marine Corps'preferred alternative developed in the Feasibility Study has been implemented. Under these conditions, if the preferred alternative is implemented at OU-1A, total cancer risks would be reduced approximately 92 percent from current conditions, but would still exceed the generally allowable risk range (one in one million to ten in one million). The principal chemical contributing to the cancer risk is 1, 2, 3-TCP in groundwater. This future conditions scenario represents an approximate 49 percent reduction in non-cancer risks; however, it would still exceed the hazard index threshold value of 1. The majority of non-cancer risk is associated with 1, 2, 3-TCP and selenium in groundwater and manganese, a naturally occurring metal, in soil. The above scenarios were derived from conservative assumptions. The actual risks posed to residents under future conditions are expected to be less than predicted based on the effectiveness of institutional controls.

Analysis of Potential Impacts:

Short-term risks may occur to workers during excavation, handling, and offsite disposal of contaminated soils at the OU-1A site. Workers involved in these activities may also be exposed to contaminated groundwater because the excavations would extend below the water table. A Health and Safety Plan (HSP) and remedial action work plan will include procedures to minimize short-term risks to workers and public safety during soil excavation, and soil preparation. The purpose of the HSP is to describe the controls and procedures that will be implemented to minimize any incidents, injury, and health risks associated with project activities. The HSP will be prepared according to Occupational Safety and Health Agency (OSHA) and hazardous waste management requirements. Elements to be addressed in the HSP include:

- A general description of the project site, including location and site plans.
- Work objectives.
- A hazard evaluation, including characteristics of known or expected site or work hazards.
- Names of key personnel and their designees, for site health and safety, and the site safety coordinator
- Statements from any remediation contractor that site personnel have completed training in accordance with 29CFR1910.120 and 8CCR5192 (General Industrial Safety Order).
- Medical surveillance requirements.
- Personal protective equipment (PPE) to be used by site personnel, for each task of work and type of operation.
- Decision criteria to be used in determining levels of PPE.
- The types and frequency of personal and area air monitoring, instrumentation, and sampling techniques for health and safety monitoring.

- Site control measures, including designation of work zones.
- Decontamination procedures for personnel and equipment
- Noise control procedures and action levels.
- Dust control procedures and action levels.
- Description of how wastes generated during project will be managed.

Along items identified in the HSP, appropriate engineering and administrative controls at the project site will be instituted, such as dust suppression measures, perimeter monitoring, traffic-safety planning, spill prevention, and contingency planning. The groundwater extraction and treatment system will be equipped with secondary containment and appropriate automatic shutoff valves to prevent tank overflows should the transfer pump fail. Additionally, surge tanks will be connected to the extraction wells to contain extraction groundwater in the event that the treatment system becomes inoperable. During the operation of the system, actual threat of fire or explosions is considered to be extremely remote, as the groundwater treatment system will utilize self-contained granular activated carbon vessels to absorb contaminants from extracted groundwater as it pumped through the system.

Hazardous substances, in the form of soil cuttings and well development groundwater, generated during the instillation of the extraction wells will be managed in accordance with state and federal laws and regulation. All wastes to be transported offsite will be placed in Department of Transportation approved storage containers and transported to a permitted facility for treatment, storage and/or disposal.

Regeneration or disposal of spent carbon will be the responsibility of the GAC supplier under a long-term service contract. It is anticipated that spent GAC will be transported off-site for regeneration. Prior to shipment from the project site, the spent carbon will be tested to determine the applicable waste classification (nonhazardous, RCRA hazardous, and/or non-RCRA hazardous). Characterization, packaging, and transport of this material will be in accordance with the United States Department of Transportation, EPA and DTSC requirements.

Describe to what extent project activities would:

a. Create a significant hazard to the public or the environment throughout the routine transport, use or disposal of hazardous materials.

   Project activities will not create a significant hazard to the public due to routine transport, use, or disposal of hazardous materials because the project will use, treat and manage hazardous material and hazardous waste in accordance with all applicable waste management requirements as well as worker safety requirements In addition, the truck route used to dispose contaminated soil is an established truck route currently used by developers that avoids sensitive areas such as schools and residential areas.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

   The project will utilize and institute hazardous materials and hazardous waste spill response plans and preventative measures, such as secondary containment, to control any upsets and accidents involving hazardous materials. Given the nature of the project, types of contaminants, and project controls to be enacted onsite, no significant hazard to the public or the environment is expected from project activities.

   In addition, the application of institutional controls consisting of land-use restrictions that will be incorporated and implemented through two separate legal instruments (1) a Covenant Agreement with Cal/EPA pursuant to State laws; and (2) a Quitclaim Deed form the Navy to the property recipient will prevent human contact with materials of concern.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.

The project site is currently unoccupied and the closest proposed residential area is approximately 500 feet away. The closest existing schools are Thorman Elementary School and Currie Middle School. A school is proposed within one quarter mile of the site; however, the route for trucks that will haul hazardous materials will not travel on the road for the proposed school site. Actual construction of the school will not occur until the soil disposal is completed. Therefore, onsite management of hazardous wastes, materials, or emissions will not impact existing schools. Since project construction activities are time-limited, management of hazardous waste, materials, or emissions will not impact proposed schools.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to public or the environment.

While former MCAS Tustin as a whole is included on the Department of Toxic Substances Control CalSites database pursuant to Government Code Section 65962.5 due to active site status and remediation agreements, it is not a National Priorities List (NPL) listed site. This proposed project will not create a significant hazard to the public or environment due to its location on a site included in the CalSites database. The activities undertaken in this plan will serve to reduce the site's risks to the public health and the environment.

e. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

Project activities will not impair implementation or physically interfere with existing emergency response or evacuation plans. All project activities will be conducted consistent with project emergency response plans as well as any base-specific or local emergency response plans.

References:

BNI, 2003

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

8. Hydrology and Water Quality

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel. This is consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

The hydrogeology at former MCAS Tustin is divided into the shallow and regional aquifers. The shallow aquifer is located approximately 10 to 16 feet bgs in the vicinity of IRP-13S. The regional aquifer is first encountered at approximately 100 feet bgs and extends several hundred feet bgs.

The shallow aquifer at IRP – Site 13S is divided into three WBZs. The first WBZ extends from 25 to 40 feet bgs, the second from 40 to 70 feet bgs, and the third from 70 to 100 feet bgs. An upper confining layer of silty clay that is approximately 6-8-feet thick is located between the vadose zone and permeable sand of the first WBZ.

In general, shallow groundwater is locally confined in laterally discontinuous, interfingering lenses of sand and gravel, which are about one to five feet thick. Massive silt and clay separate the sand and gravel lenses. Field data show that the first and second WBZs are hydraulically interconnected. The third WBZ appears to be hydraulically separated from the second WBZ across much of former MCAS Tustin. The third WBZ is also an apparent transition zone between the shallow aquifer at former MCAS and the underlying regional aquifer. Groundwater generally flows towards the south and southwest in both the first and second WBZs at IRP Site 13S. Groundwater in the third WBZ generally flows toward the southwest with some localized variability.

The regional aquifer is a primary source of drinking and irrigation water. Basewide, an aquitard composed of a continuous stiff clay layer appears to effectively limit hydraulic communication between the shallow and regional aquifers. This clay layer ranges from 10 to 30 feet thick across most of the facility. Groundwater in the regional aquifer generally flows southwesterly towards the Pacific Ocean, with local pumping depressions nested around several extraction well fields within the groundwater basin. Based on measurements from three basewide regional aquifer monitoring wells, the vertical gradients between the shallow and regional aquifer are generally downward.

Groundwater contamination originating at IRP- Site 13S has been identified in the first and second WBZs.

Other than drainage channels, there are no significant surface water bodies located near former MCAS Surface water drainage in the area is controlled by the local topography and man-made drainage facilities. Former MCAS Tustin lies at the eastern edge of a broad coastal plain that gently slopes south toward the Pacific Ocean (about 9 miles away). Three drainage channels, the Santa Ana-Santa Fe Channel, Peters Canyon Channel, and the Barranca Channel, are located in or adjacent to the base. Stormwater either naturally penetrates the ground or enters surface water conduits, such as the channels.

Surface and ground water quality and beneficial uses in the area are regulated by the Santa Ana RWQCB. The Santa Ana RWQCB implements federal, state, and local water quality requirements, including federal NPDES permits. However, stormwater NPDES requirements at former MCAS Tustin are regulated by the Cities of Tustin and Irvine according to municipal stormwater permits. Orange County Flood Control District also has requirements for discharges into the storm drain system to protect system components, prevent erosion, and control sediment.

Analysis of Potential Impacts:

Potential surface water impacts from project construction activities will be controlled through a variety of construction best management practices. Construction dewatering is also anticipated to be necessary, the excavation is planed below the water table to the top of the sand layer in the first WBZ. The water pumped out of the excavations and collected from the temporary soil-storage areas would be stored in Baker-type tanks and treated using mobile GAC units. Soil excavation will be backfilled and compacted to existing grade; therefore, the project will not alter the existing surface water drainage in the area.

Protections of surface waters from runoff and construction discharge will include the following project controls identified by Orange County.

i. Sediment from areas disturbed by construction shall be retained on site using structural controls to the maximum extent practicable.

ii. Stockpiles of soil shall be properly contained to eliminate or reduce sediment transport from the site to the streets, drainage of facilities or adjacent properties via runoff, vehicle tracking, or wind.

iii. Appropriate Best Management Practices (BMP's) for construction-related materials, wastes, spills or residues shall, be implemented to minimize transport from the site to streets, drainage facilities, or adjoining properties by wind or runoff.

iv. Runoff from equipment and vehicle washing shall he contained at construction sites unless treated, to reduce or remove sediment and other pollutants.

v. All construction contractor and subcontractor, personnel are to be made aware of the required best management practices and good housekeeping measures for the project site and any associated construction staging areas.

vi. At the end of each day of construction activity, all construction debris and waste materials shall be collected and properly disposed in trash or recycle bins.

vii. Construction sites shall be maintained in such a condition that a storm does not carry wastes or pollutants off the site. Dischargers other than storm water (non-storm water discharges) are authorized under California's General Permit for Storm Water Discharges Associated with Construction Activity only where they do not cause or contribute to a violation of any water quality standard and are controlled through implementation of appropriate BMPs for elimination or reduction of pollutants. Non-storm water discharges must be eliminated or reduced to the extent feasible.

Potential pollutants include but are not limited to: solid or liquid chemical spills; wastes from paints, stains, sealants, solvents, detergents, glues, lime, pesticides, herbicides, fertilizers, wood, preservatives, and,

asbestos, fibers, paint flakes or stucco fragments; fuels, oils, lubricants and hydraulic, radiator or battery fluids; concrete and related cutting or curing residues; floatable wastes, wastes from any engine/equipment steam cleaning or chemical degreasing; wastes from street cleaning; and super chlorinated potable water line flushing and testing. During construction, disposal of such materials should occur in a specified and controlled temporary area on-site physically separated from potential storm water runoff, with ultimate disposal in accordance with local, state and federal requirements. Discharging contaminated groundwater produced by dewatering groundwater that has infiltrated into the construction site is prohibited. Discharging of contaminated soils via surface erosion is also prohibited.

The proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further downgradient or lateral migration.

Underneath former MCAS Tustin, the shallow groundwater is controlled by the three main drainage channels surrounding the base, which intersect the shallow groundwater table and act like dewatering trenches. As a result, the shallow groundwater flows toward the drainage channels. The drainage channels, however, do not have any influence on the deeper, regional aquifer. The shallow aquifer is generally not used for potable water and is hydraulically separated from the regional aquifer.

The project will generate effluent from the groundwater treatment system that will be discharged to the Peters Canyon Channel. Peters Canyon Channel is an unlined drainage ditch, traversing former MCAS Tustin from Edinger Avenue to Barranca Parkway. The project would discharge approximately 18 gpm of treated water for the first 6 years of operation and about 12 gpm of treated water for years 6 to 30 of operation. The DON has reviewed the need to obtain an NPDES permit for the discharge of treated water into Peters Canyon Channel and has determined that such a permit would be unnecessary. The groundwater treatment system associated with this project will be operated entirely onsite as defined under CERCLA and NCP. The treated groundwater will be discharged into an onsite storm drain emptying into Peters Canyon Channel, where it will ultimately discharge into water of the United States at an offsite location. The EPA has consistently maintained that the migration of treated water beyond site boundaries (after the response action has treated the water so that it complies with applicable or relevant and appropriate requirements (ARARs)) is consistent with the onsite permit exclusion in Section 121(e) of CERCLA and does not constitute an "offsite" response action that must obtain an NPDES permit.

However, the DON and the RWQCB currently disagree on whether or not the Navy should apply for a NPDES discharge permit for the discharge of treated groundwater from site OU-1A. The RWQCB views the discharge as an off-site discharge requiring a permit. In addition, since former MCAS Tustin is not a NPL site, there is some disagreement as to whether or not Section 121 of CERCLA applies to this facility. Consequently, the RWQCB will issue an NPDES permit for discharge of treated groundwater and not an NPDES permit for storm water.

In any event, the DON will assure that the discharge of treated groundwater complies with applicable ARARs as provided by Section 121 of CERCLA and the NCP, including the MCLs, beneficial uses and water quality objectives of the Santa Ana RWQCB. The DON will achieve compliance with the ARARs and other objectives by regularly monitoring the influent and effluent of the treatment system. Details of the monitoring will be developed as part of the remedial design phase. The groundwater subcontractor will be responsible for documentation of the onsite treatment activities. This documentation will include a summary report detailing groundwater quantities removed, treated, and discharged; discharge flow rates; the number and types of samples collected; and the results of any analyses. Orange County Flood Control District also has requirements for discharges into the storm drain system to protect system components, prevent erosion, and control sediment.

On June 14, 2002, the US Environmental Protection Agency promulgated a Total Maximum Daily Load (TMDL) for Toxics for the Newport Bay and San Diego Creek watersheds, including the Peters Canyon Wash drainage. The TMDL implements relevant water quality objectives including the California Toxics Rule (CTR) criteria. The groundwater in the project area contains selenium, one of the toxic substances

regulated under the TMDL. Pursuant to the TMDL and the CTR, the RWQCB will require the Navy to comply with a discharge limitation of five micrograms selenium per liter (5 µg/L) for discharges to Peters Canyon Wash as soon as possible, but no later than five (5) years from permit issuance. For ongoing discharges the Navy will need to demonstrate that it is infeasible for them to immediately meet the discharge limit and propose a schedule for meeting the limit in the shortest time practicable. New discharges such as from sites IRP 12 and IRP 3 (OU-1B) will be required to meet the discharge limit of 5 µg/L at startup.

The nutrient TMDL specifies load allocations for total nitrogen inputs to the San Diego Creek/Newport Bay watershed from "undefined sources", which include groundwater cleanup project discharges. The load allocations require a reduction in total nitrogen input from these discharges of 50% in the summer (April - September) by 2007 and a 50% reduction in the winter (October - March) input by 2012. The TMDL specifies that the Regional Board may require earlier compliance where it is feasible and reasonable. The Navy will be required to submit a plan for approval by the Regional Board's Executive Officer that identifies the method(s) and schedule by which they propose to achieve a 50% reduction in the total nitrogen in their discharges. The schedule is to reflect the shortest practical time necessary to achieve the 50 % reduction, but in no case extend beyond January 1, 2007.

Prior to discharge of the treated groundwater to the Peters Canyon Channel, the Navy shall demonstrate that the discharge meets the requirements of the RWQCB. Any discharges for which an NPDES permit is not obtained, the Navy shall submit an alternative proposal to DTSC for the treatment or disposal of treated groundwater within 60 days

The 2002 Clean Water Act Section 303(d) List identifies the San Diego Creek and Upper Newport Bay as impaired by elevated concentrations of metals, pesticides and nutrients from urban runoff, agriculture and unknown nonpoint sources. Although discharge of groundwater from the project area into the Peters Canyon Channel (that leads to the Upper Newport Bay) could potentially impact this sensitive environmental area, compliance by the Navy with the NPDES requirements issued by the RWQCB will protect this watershed area and reduce impacts to less than significant.

To prevent use of contaminated groundwater before remediation goals are met, the DON will use institutional controls (including property deed restrictions) to restrict future use of contaminated groundwater, allow access to extraction/monitoring wells and treatment systems components, and protect wells and other equipment installed at former MCAS Tustin. The access provisions are necessary to ensure that the DON and regulatory agencies can maintain and monitor remediation of groundwater at the site.

Describe to what extent project activities would:

a. Violate any water quality standards or waste discharge requirements.

   All discharges of groundwater or waste will be performed in accordance with local water quality standards; therefore, no violations are expected.

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficient in aquifer volume or a lowering of the local groundwater table level (e g , the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

   Groundwater supplies in the area are pumped from the regional aquifer which is hydraulically separated from the shallow ground water zones. Since the project will only produce water from the shallow zones, the project will not impact groundwater supplies or recharge in the area. In addition, production rates from the shallow groundwater extraction wells will be low and will not significantly impact shallow water zones offsite.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site.

Project construction activities do not involve alteration of the course of a stream or river. In addition, soil excavation areas will be backfilled and compacted to existing grade; therefore, the project will not alter the existing surface water drainage in the area.

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site.

Project construction activities do not involve alteration of the course of a stream or river. In addition, soil excavation areas will be backfilled and compacted to existing grade; therefore, the project will not alter the existing surface water drainage or cause flooding in the area.

e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

The 18 gpm treated groundwater discharge into the storm drain system is extremely small compared to the design capacity of the storm drain system; therefore, project discharges will not exceed the capacity of the system or add substantial new sources of polluted runoff.

f. Otherwise substantially degrade water quality.

The proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further downgradient or lateral migration. The remediation of shallow groundwater at the project sites will help improve water quality in the area.

g. Place within a 100-flood hazard area structures which would impede or redirect flood flows.

The project site is not located within a 100-year flood zone.

h. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

Peters Canyon and Rattlesnake reservoirs currently are the only confined water bodies upstream of the project site. Flooding associated with failure of the reservoir dams would not significantly impact the project site due to distance from the source and low water volumes.

I. Inundation by sieche, tsunami or mudflow.

The project site is located approximately 9 miles inland from the Pacific Ocean and does not lie within an area of tsunami run-up risk. In addition, no lakes, confined bodies or water, or steep mountains are located near the project site; consequently, there is no risk from sieches or mudflows.

References:

BNI, 2003

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ❑ No Impact

9. Land Use and Planning

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.
- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

OU-1A is composed of groundwater contamination at IRP-13S.

OU-1A consists of a vehicle maintenance facility and wash pad known as IRP Site 13S. The site includes Buildings 16 and 50, formerly used for vehicle maintenance, and a former wash pad. The buildings and wash pad occupy an area of approximately 3,400 square yards in the northwestern corner of former MCAS Tustin. The lateral extent of the associated 1,2,3-trichloropropane (1,2,3-TCP) groundwater plume is approximately 27 acres, located partially in the City of Tustin's planned Community Park (Parcel 22), the County of Orange's planned Urban Regional Park (Parcel 18), the South Orange County Community College District's planned educational use (Parcels I and 19), the Orange County Sheriff's Department educational use (Parcel 2), and private residential development (Parcels 16 and 24). The County of Orange or City of Tustin is responsible for parks and recreation facilities (including recreation bikeways and trails) in the project area.

Former MCAS Tustin is currently zoned as MCAS Tustin Specific Plan. However, since closure of the base, new plans for viable and balanced reuse of base properties are currently being considered. IRP-13S is located within reuse parcels 24 and 40 that are planned for residential and circulation respectively. The proposed future land use in and around IRP-13S will also include construction of roadways and underground utilities.

Analysis of Potential Impacts:

To prevent use of contaminated groundwater before remediation goals are met, the DON will use institutional controls (such as property deed restrictions) to restrict future use of contaminated groundwater, and thereby limiting human exposure. In addition, deed restrictions will allow protection of wells and other equipment installed at former MCAS Tustin from public. The proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further down gradient migration VOC remediation goals for the project are conservatively established at federal and/or state drinking water MCLs to allow unrestricted future use of

the site once cleanup goals are achieved. Institutional controls will be placed on use of water from the contaminated shallow groundwater zones until VOC remediation goals are met. This is consistent with existing land use designations, as well as proposed base reuse designations, in the project site areas. Since project activities are consistent with existing and future land use plans, impacts from the project will be less than significant. DTSC will make a determination on the necessity of additional environmental analysis should any changes to land use restrictions be requested in the future. Institutional controls are a prerequisite for the lease of this land prior to the attainment of remediation goals to protect public health and the environment.

Describe to what extent project activities would:

a. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

   The proposed project is being undertaken to remediate VOC-contaminated soil and groundwater and is consistent with applicable environmental mitigation project requirements. DTSC will make a determination on the necessity of additional environmental analysis should any changes to land use restrictions be requested in the future.

b. Conflict with any applicable habitat conservation plan or natural community conservation plan.

   The existing project site consists of highly disturbed commercial and industrial use property and site future use plans do not include habitat or natural community conservation requirements.

References:

BNI, 2003
Tustin, et al. 1999

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ❑ No Impact

10. Mineral Resources

Project activities likely to create an impact:

None.

Description of Environmental Setting:

The project site is located in a predominantly urbanized area that includes residential, industrial, and commercial uses. There are no known mineral recovery operations or occurrences of mineral resources at the site, under the site, or in the area around the site. In addition, while petroleum resources are common in the Los Angeles Basin, no existing or potentially recoverable energy resources (such as oil, natural gas, oil shale, or geothermal) are known to exist at or under the site.

Analysis of Potential Impacts:

Since mineral resources are not known to occur within the project area, the proposed project will not result in a loss of availability of any state, regional, or locally-important mineral resources or mineral resource recovery sites. Therefore, no further analysis is necessary.

Describe to what extent project activities would:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state

   See analysis above.

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

   See analysis above.

References:

Tustin, et al., 1999

California Department of Conservation, California Geological Survey (formerly the Division of Mines and Geology) website, www.consrv.ca.gov/dmg.

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ■ No Impact

11. Noise

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

The proposed project is located in an industrial area of former MCAS Tustin that is currently unoccupied. The nearest existing residences are located approximately one half mile away (over 2,500 feet) from the project site.

The existing major noise sources at and near former MCAS Tustin are motor vehicles and the railroad. (There are currently no aircraft operations at former MCAS Tustin.) Noise from trains, combined with noise from vehicular traffic on Edinger Avenue generated an average noise level of about 70 decibels (dB) Community Noise Equivalent Level (CNEL) at the former MCAS Tustin northern boundary.

The City of Tustin has noise standards limiting construction activities Monday through Friday between the hours of 7 a.m. and 6 p.m. and Saturdays from 9 a.m. to 5 p.m. No construction noise is allowed on Sundays or city-observed federal holidays.

The City of Irvine limits construction noise to 7 a.m. to 7 p.m. Monday through Friday, and 9 a.m. to 6 p.m. on Saturday. No construction noise is allowed on Sundays or city-observed federal holidays.

The City of Santa Ana limits construction noise to between the hours of 7 a.m. and 8 p.m., Monday through Saturday. No construction noise is allowed on Sundays or city-observed federal holidays.

Analysis of Potential Impacts:

Short-term construction noise is anticipated at IRP-13S as a result of project activities. The duration of the construction activities is not anticipated to last beyond six months of intermittent operations. Equipment used for construction will include trucks, a backhoe, drilling equipment and other heavy equipment. According to EPA studies (EPA publication 206717, Noise from Construction Equipment and Operations, December 1971) of equipment types and activities, construction noise is predicted to range from approximately 70 dB to 95 dBA at 50 feet from its source. Typically, construction noise decreases 6 dB with each doubling of distance from the noise source to the receptor (i.e., 6-dB decrease at 100 feet, and 12-dB decrease at 200 feet).
Currently, the closest sensitive receptors (residences) are located approximately half mile (2500 feet) from the project sites; therefore, short-term noise from the project construction activities will not pose a

significant impact to sensitive receptors. The construction activities will be limited to normal working hours (generally 8 a.m. to 5 p.m., Monday through Friday). All on-site employees will be required to wear ear protection devices if noise levels are above 80 dBA.

Since the nearest proposed residences are approximately 500 feet from the project sites, they will not be exposed to increased noise resulting from the long-term operation of the ground water extraction and treatment system at IRP – 13S The only noise source at the treatment will be a transfer pump that operates intermittently. The system pump will be small; consequently, noise levels will be low. Appropriate engineering controls for noise will also be considered during the remedial system design phase to reduce noise impacts to any future development in or around the groundwater extraction and treatment system.

Describe to what extent project activities would:

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

   Project construction activities will be limited to normal business hours (Monday through Friday, 8 a.m. to 5 p.m.). This is consistent with the noise standards established by the three cities (Tustin, Irvine, and Santa Ana) surrounding former MCAS Tustin

b. Exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels.

   Persons other than project construction workers will not be exposed to significant groundbourne vibration or noise. All onsite workers will be required to wear ear protection if noise levels are above 80 dBA.

c. A substantial permanent increase in ambient noise levels in the vicinity above levels existing without the project.

   Implementation of the proposed project will result in temporary (approximately 6 months of intermittent activity) increases in noise levels due to excavation and drilling activities. Noise level increases from long-term operation of the groundwater extraction and treatment systems will be minor due to treatment system pump size limits.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

   The project site is currently unoccupied and the closest sensitive receptors are approximately one half mile away. While project construction activities will generate a temporary increase in noise levels at the project site, increases to ambient noise levels in areas offsite will not be significant because the project generated noise will decrease to within average levels due to distance.

References:

BNI. 2003
Tustin, et al. 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

12. Population and Housing

Project activities likely to create an impact:

None.

Description of Environmental Setting:

The project is located in an unoccupied section of former MCAS Tustin, which is currently a closed military base. No housing or occupied structures are located at the project site, IRP-13S.

Analysis of Potential Impacts:

All project activities, including soil excavation, installation of the extraction and treatment system, and long-term system monitoring, will require no additional permanent staff; therefore, there will be no increased demand for housing. The project will require small numbers (less than 8 at any given time) of contract workers for specific tasks that will be of short duration during construction and operation of the system. Therefore, the proposed project will not impact population or housing in the area and no further analysis of impacts is deemed necessary.

Therefore, the proposed project will not:

a. Induce substantial population growth in area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

References:

BNI, 2003

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ❑ Less Than Significant Impact
- ■ No Impact

13. Public Services

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

The project site is currently unoccupied and is located in an area where fire protection and emergency medical services are provided by the Orange County Fire Authority and library services are provided by the County of Orange. The City of Tustin and its contractors provide additional public services. The City of Tustin provides police protection and school facilities are provided by the Tustin Unified School District. The County of Orange or City of Tustin provides parks and recreation facilities (including recreation bikeways and trails).

Analysis of Potential Impacts:

Former MCAS Tustin is currently fenced and the treatment systems will also be fenced to prohibit entry by unauthorized persons. The actual threat of fire or explosions is considered to be extremely remote, as the long-term groundwater treatment system will utilize self-contained granular activated carbon vessels to adsorb contaminants from extracted groundwater as it is pumped through the system. However, in the event of a fire, a fire extinguisher will be located at the treatment facility and the system will have automatic shut-off switches in the case that the system overheats. Additionally, DON Representatives will inspect and maintain project equipment on a regular basis.

Implementation of the project construction activities will involve a limited number of workers onsite intermittently over a 6 month period during daylight hours. These workers should not require additional public services. In the event of an accident onsite, workers may need to use emergency medical assistance or local medical facilities. However, if an accident were to occur, it would be an isolated incident and would not create a significant impact on existing public services.

Describe to what extent project activities would:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

The project will use only a limited number of personnel onsite intermittently for 6 months and for routine system maintenance/monitoring. Consequently, no personnel will need to relocate to the area and impacts to fire, police, schools, parks, or other public facilities will be less than significant.

References:

Tustin, et al., 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

14. Recreation

Project activities likely to create an impact:

None.

Description of Environmental Setting:

The project site is currently unoccupied and does not include any recreational facilities, however in the future 27 acre project site will be located partially in the City of Tustin's planned Community Park (Parcel 22), the County of Orange's planned Urban Regional Park (Parcel 18), the South Orange County Community College District's planned educational use (Parcels I and 19), the Orange County Sheriff's Department educational use (Parcel 2), and private residential development (Parcels 16 and 24). The County of Orange or City of Tustin is responsible for parks and recreation facilities (including recreation bikeways and trails) in the project area.

Analysis of Potential Impacts:

The project will use only a limited number of personnel onsite intermittently for 6 months and for routine system maintenance/monitoring. Consequently, no personnel will need to relocate to the area or have need of recreational facilities. Therefore, the proposed project will have no impact on recreation in the area, and no further analysis is necessary.

Therefore, the proposed project will not:

a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

b. Include recreational facilities or require construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

References:

BNI, 2003

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ❑ Less Than Significant Impact
- ■ No Impact

15. Transportation and Traffic

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network

Description of Environmental Setting:

Regional access to former MCAS Tustin is provided by the following arterials:

- Interstate 5 (I-5), also know as the Santa Ana Freeway, to the north.
- State Route 261 (SR-261), also known as the west leg of the Eastern Transportation Corridor (toll), to the north in the vicinity of the intersection of Jamboree Road and Walnut Avenue.
- State Route 55 (SR-55), also known as the Costa Mesa Freeway, to the west.
- Interstate 405 (I-405), also known as the San Diego Freeway, to the south.

Local access to former MCAS Tustin is from Red Hill Avenue at Valencia Avenue/Moffett Drive.

State freeways in the area are maintained by the California Department of Transportation (CalTrans). City streets and public toll roads are generally under the jurisdiction of the appropriate city or the Transportation Corridor Agency, an organization formed to plan, finance, construct, and operate Orange County's public toll road system.

Analysis of Potential Impacts:

The project is expected to have a less than significant impact on area traffic because about 10 trucks a day will use the truck route during contaminated soil transport and 15 trucks a day will use the truck route during imported fill transport. The trucks will travel using Moffet Drive, turning right on Harvard Avenue, turning right on Warner Avenue, turning right on Jamboree Road to the Jamboree Road on ramp of Interstate 5. The truck route is an established truck route currently used by developers that avoids sensitive areas such as schools and residential areas. All work performed within the State right-of-way will conform to Caltrans Standard Plans and Standard Specifications for Water Pollution Control, including production of a Water Pollution Control Program or Storm Water Pollution Prevention Plan as required. A limited number of worker passenger vehicles will also be added to traffic to and from the project site intermittently during the 6 months of construction activities. Once the groundwater extraction and treatment system is in place; however, no additional construction employees will be required at the facility and a contractor will only conduct site visits on a weekly basis. Therefore, any increase in personnel or construction vehicle traffic in the area due to project activities will be less than significant.

Therefore, the project activities would not:

a. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

b. Exceed, either individually or cumulatively, a level of service standard established by the country congestion management agency for designated roads or highway.

c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d. Result in inadequate emergency access.

e. Result in inadequate parking capacity.

f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

As discussed above, since most project-related vehicle traffic will be minimal and construction activities are temporary, project activities will not result in a significant impact on existing traffic loads, levels of service, emergency access, or parking capacity in the surrounding area. In addition, the project does not include design features or uses incompatible with existing roads and does not conflict with alternative transportation policies, plans, or programs.

References:

BNI, 2003
Tustin, et al. 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

16. Utilities and Service Systems

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel. This is consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.

Description of Environmental Setting:

Existing utilities and service systems in or near the proposed project area include water (potable and reclaimed) distribution, sewage collection, storm water drainage, solid waste disposal, electrical service, natural gas distribution, telephone service, and cable television service. The entities and the services they provide are listed below:

- Potable and reclaimed water distribution and sewage collection services: Irvine Ranch Water District
- Storm water drainage and flood control facilities: Orange County Flood Control District
- Solid waste disposal services: Federal Management or Waste Management of Orange County
- Electrical service: Southern California Edison
- Natural gas distribution: Southern California Gas Company
- Telephone service: Pacific Bell
- Cable television service: Cox Communications

Additionally, domestic water lines, sanitary sewer lines, storm drains and electrical conduits are located within the IRP -13S. Coordination regarding City-owned utility systems at the former MCAS Tustin will be made through JHTM, the City's on-site contractor

Analysis of Potential Impacts:

Electrical power is needed for the groundwater extraction pumps and treatment system equipment. It is anticipated that the groundwater treatment systems would use approximately 50,000 kilowatt hours per year (based on the existing electric use at the time-critical removal action at IRP Site 13-S for the year 2002). Compared with the baseline usage of 27.9 million kWh per year during base operation (EIS/EIR), this is an increase of only about 0.25 percent. Since former MCAS Tustin is now closed and current energy requirements for the base are minimal, energy usage to run the treatment system will not result in any significant impact on utilities.

The proposed project would discharge approximately 18 gpm of treated water for the first 6 years of operation (and about 12 gpm of treated water for operation years 6 to 30) into a drainage ditch that merges into the San Joaquin Ditch and flows into Peters Canyon Channel. Future storm drains on the

former base will be designed to accept large volumes of rain run-off without the potential for ponding. Therefore, a discharge rate of 18 gpm should not create a significant impact on the carrying capacity of the storm drain system.

Wastes will be disposed of off-site by a waste disposal subcontractor. Regeneration or disposal of spent carbon from the groundwater treatment system will be the responsibility of the GAC supplier under a long-term service contract. It is anticipated that spent GAC will be transported off-site for regeneration. Prior to shipment from the project site, the spent carbon will be tested to determine the applicable waste classification (nonhazardous, RCRA hazardous, and/or non-RCRA hazardous). Characterization, packaging, and transport of this material will be in accordance with the United States Department of Transportation, EPA and DTSC requirements.

Proposed and future groundwater wells and treatment system piping will be located to prevent interference with existing utilities. Additionally, California Government Code Section 4216.2 requires that every person planning to conduct any excavation shall contact the appropriate utility regional notification center prior to commencement of excavation activities. This notification is intended to help prevent any impact or disruptions to service and will be required prior to construction of groundwater wells and underground piping.

Describe to what extent project activities would:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

   Discharges of treated groundwater will be made in compliance with the requirements of the Orange County Flood Control District and Santa Ana Regional Water Quality Control Board.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

   Use of water for project construction activities will be temporary and relatively low in volume and discharges to the sanitary sewer will be small because project generated groundwater will be treated onsite and discharged to the storm drains. Therefore, the project will not result in the construction or expansion of water or wastewater treatment facilities.

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

   The proposed project would discharge approximately 18 gpm of treated water for the first 6 years of operation and about 12 gpm of treated water for operation years 6 to 30 into a drainage ditch that merges into the San Joaquin Ditch and flows into Peters Canyon Channel. Future storm drains on the former base will be designed to accept large volumes of rain run-off without the potential for ponding Therefore, a discharge rate of 18 gpm should not create a significant. impact on the carrying capacity of the storm drain system The City of Tustin is upgrading all the utility system on the former base.

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

   Prior to closure, former MCAS Tustin consumed approximately 1.3 million gallons per day of potable water from Irvine Ranch Water District. Since the base is now closed and project water usage at former MCAS Tustin will be significantly less than pre-closure use, no new or expanded water entitlements will be needed to accommodate project activities.

e. Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments.

Wastewater discharges to the sanitary sewer will be small because project generated groundwater will be treated onsite and discharged to the storm drains. Therefore, a capacity determination by the local wastewater treatment provider will not be necessary or required.

f. Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs.

Solid waste generated from project activities will be characterized and either reused onsite (if non-hazardous) or sent to an appropriately permitted landfill with capacity to accept the waste. This will ensure that project solid waste disposal requirements are accommodated.

g. Comply with federal, state, and local statutes and regulations related to solid waste.

As noted above, solid waste generated from project activities will be characterized and either reused onsite (if non-hazardous) or sent to an appropriately permitted landfill with capacity to accept the waste. In addition, solid waste identified as hazardous will be segregated, managed, and disposed consistent with applicable federal, state, or local hazardous waste requirements.

References:

BNI, 2003
Tustin, et al. 1999

Findings of Significance:

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- ☐ No Impact

17. Cumulative Effects

Project activities likely to create an impact:

None.

The proposed project includes the extraction and treatment of groundwater contaminated with VOCs, principally 1, 2, 3-TCP. The proposed project will generate effluent from the treatment system that will be discharged to the Peters Canyon Channel according to the SRWQCB discharge limits One other project is being considered along with this project- OU- 1B Sites 3 and 12. During the construction phase, these projects will not occur simultaneously. The soil disposal will occur separately at each site. During the operation phase the OU – 1A and OU – 1B systems will operate simultaneously. However, the impacts are considered less than significant.

Description of Environmental Setting:

In addition to OU-1A, former MCAS Tustin has four other designated operable units, OU-1B, OU-2, OU-3, and OU-4. OU-1B include two IRP sites (IRP-3 and 12 and four associated AOCs). The Proposed Plan for OU 1B was completed in May 2002. A draft final ROD/RAP is under development and is scheduled to be issued in May of 2004. The Marine Corps' preferred remedy, Hydraulic Containment with Hot Spot Removal, will be used to treat TCE present in soil and groundwater. The treatment system for the proposed remedy at OU- 1B is scheduled to begin operation in summer of 2006. Cumulative impacts are associated with this project since OU - 1B GAC system will operate in the same time frame. However, the impacts are considered negligible since the major resource electrical power is needed for the groundwater extraction pumps and treatment system equipment. It is anticipated that the groundwater treatment systems would use approximately 100,000 kilowatt hours per year (based on the existing electric use at the time-critical removal action at IRP Site 13-S for the year 2002). Compared with the baseline usage of 27.9 million kWh per year during base operation (EIS/EIR), this is an increase is minimal.

OU-2 consists of three IRP sites (IRP-2, IRP-9 and IRP-13E) and nine AOCs (AD-04, AS-06, AS-08, AST-02, AST-04, MDA-04, MDA-07, MMS-01 and MWA-03) These sites require no further action based on the results of field investigations, current and future conditions, and risk assessments conducted for these sites. The results of the associated risk assessments demonstrate that conditions at these sites and AOCs are protective of human health and the environment. Soil and groundwater at each of the sites and AOCs were evaluated and determined to require no further action due to site-specific releases. However, IRP-9 is located in proximity to VOC plumes originating from OU-1A. Similarly, AS-08, MDA-04 and MDA-07 are located in proximity to VOC plumes originating from OU-1B. Therefore, the groundwater contamination underlying these four sites is being addressed as part of the remedial action for OU-1A and OU-1B, respectively. A CEQA Notice of Exemption (NOE) for the Final ROD/RAP for OU-2 was finalized on September 26, 2000. The State Clearinghouse received the CEQA NOE on September 28, 2000, the same day the ROD/RAP was finalized.

OU-3 has one IRP site (IRP-1) known as the Moffett Trenches and Crash Crew Burn Pits that consist of shallow, unlined landfill trenches and pits. The trenches were used to dispose of municipal and industrial wastes, including paints, oils and solvents. The pits were used to burn liquids (jet propellant fuel, oils, solvents, lacquers and primer) during fire-fighter training exercises. A number of remedial response actions have been conducted at the site, including excavation of contaminated soil, construction of a contaminated groundwater containment wall, construction of a French drain system, quarterly report of groundwater monitoring, and installation of a plastic liner (for the construction of Jamboree Road). A CEQA Negative Declaration (ND) for the ROD/RAP for OU-3 was finalized on April 27, 2001 and forwarded to the State Clearinghouse for final filing on May 16, 2001. DTSC approved and signed a ROD/RAP for Moffett Trenches on December 18, 2001. The ROD/RAP presents the final selected remedial action for the Moffett Trenches and crash Crew Burn Pits site. The major components of the selected remedial action for OU-3 are institutional controls, groundwater and surface-water monitoring,

landfill gas monitoring, inspection and maintenance of the containment wall and cover, maintenance of the French drain system and associated sumps, maintenance of monitoring wells and security features, and periodic reviews. In addition, the land use controls include use restrictions, notification procedures, and inspections of physical structures, contingency plans, and five-year reviews.

OU-4-IRP Sites 5, 6, 8, 11, 13W, and 16, and eight AOCs: Two additional AOCs, the Arsenic AOC and Storage Tanks (ST) 16A/B were recently added to OU-4. Additional groundwater sampling at six OU-4 sites was conducted through August 2003 to collect data to revise OU-4 human health risk assessments. A draft Technical Memorandum summarizing sampling results and No Further Action (NFA) at several of the OU-4 sites was released which would become part of OU-4A, and would then proceed directly to the Proposed Plan and ROD/RAP stages. Areas that would require further action to reach closure would become part of OU-4B and would be included in the draft final FFS, which is scheduled for distribution in summer 2005. A Proposed Plan and ROD/RAP for OU-4B will be developed following the completion of the FFS.

Analysis of Potential Impacts:

Cumulative impacts are associated with this project, since the OU - 1B GAC system will operate in the same time frame. However these impacts are considered negligible.

Describe to what extent project activities would:

a. Increase the need for developing new technologies, especially for managing any hazardous or non-hazardous wastes that the project generates

   Wastes will be remediated using well extraction and pump and treat with GAC. These are established remedial technologies. No significant amounts of any hazardous or non-hazardous wastes are generated.

b. Increase the need for developing new technologies for any other aspects of the projects.

   Please refer to the response in item a. There is no need to develop new technologies for the project.

c. Leads to a larger project or leads to a series of projects, or is a step to additional projects. Examples of DTSC projects include Interim Corrective Measures and Removal Actions that are not final remedies for a site or facility.

   This project is anticipated to be the final site remedy. Treated water from the treatment system would be discharged to an on-site culvert emptying into Peter Canyon Channel. The discharge of water to the channel would comply with substantive ARARs for surface water discharges. Substantial VOC concentration reductions (and, therefore, risk reductions) are expected during the initial 15 years of hydraulic containment. Within 15 years, a maximum predicted concentrations of TCE would fall below 2 8 µg/L, the concentration corresponding to a one in 10,000 cancer risk level for drinking water exposure according to U S. EPA Region 9 Preliminary Remediation Goals for tap water level and would also fall below the site remediation goal of 5 µg/L. The predicted maximum 1, 2, 3-TCP concentrations would remain slightly above the site remediation goal of 0.6 µg/L at the end of the 30-year operating period assumed in the Feasibility Report of (Bechtel, 2002) and may exceed this goal after 60 years. Consequently, the persistence of VOC contamination within the plume areas would prevent the beneficial use of groundwater on about 44 acres of MCAS Tustin property. This restriction would not apply to presently uncontaminated areas on adjacent off-site properties or portions of the deeper Irvine Pressure Subbasin (regional aquifer) underlying the station.

d. Alters the location, distribution, density or growth rate of the human population of an area.

The Project will not alter the location, distribution, density or growth rate of the human population of this area.

e. Affect existing housing, public services, public infrastructure, or creates demands for additional housing.

The project will not create a demand for additional housing, public services, infrastructure, or create a demand for additional housing.

f. Be cumulatively considerable on the environments with cumulative adverse effects on air, water, habitats, natural resources, etc.

Combined water discharge from OU 1-A and OU 1-B is anticipated to be approximately 42 gallons per minute. This amount will not overburden the Peters Canyon Channel's capacity. Based on the analysis in the air, biological, cultural, geological, hazards, and utilities sections, there will not be adverse effects on the above-listed resources.

References:

BNI, 2003

Findings of Significance:

- ❑ Potentially Significant Impact
- ❑ Potentially Significant Unless Mitigated
- ■ Less Than Significant Impact
- □ No Impact

18. Mandatory Findings of Significance

Project activities likely to create an impact:

- Excavate approximately 3,000 cubic yards of contaminated soil from a 0.7- acre hot spot area. The soils will be placed directly into trucks, transported to a Class 1 offsite facility at the Kettleman City Hazardous Waste Disposal Facility for disposal.
- Backfill excavations with approximately 4,500 cubic yards of imported sand or gravel from a commercial source.
- Install two wells in each of the first and second WBZs, and a hot spot extraction well installed near the area of highest VOC concentrations in the IRP-13S plume. In addition one new groundwater-monitoring well will be installed in each WBZ.
- Construct and install a granulated activated carbon system for treatment of groundwater, including installation of conveyance piping.
- Discharge treated groundwater from both extraction wells and excavation dewatering to a storm sewer that eventually flows to Peters Canyon Channel. This is consistent with the Santa Ana Regional Water Quality Control Board discharge permit requirements.
- Perform necessary repairs on, and continue to operate groundwater extraction wells and treatment systems, power supply, and conveyance-piping network.
- Apply land-use restrictions that will be incorporated and implemented through a Covenant Agreement between DTSC and the Navy and a Quitclaim Deed from the Navy to the property recipient.

Description of Environmental Setting:

The project site is located in an urban industrialized region on former MCAS Tustin, a military base that was closed in 1999 as part of the federal BRAC Act. The former base property is situated on approximately 1,600 acres in central Orange County that is currently zoned for MCAS Tustin Specific Plan.

The proposed project consists of remedial actions recommended to address VOC-contaminated soil and groundwater identified on former MCAS Tustin at OU-1A site known as IRP-13S. The remediation site is located in two distinct areas which are separated by a distance of approximately 100 feet. The solvent was used as a degreaser in vehicle maintenance and cleaning small generators and other field equipment in these areas. Solvents used during cleaning activities may have been released to the subsurface or released to storm drains.

The former base is located within the South Coast Air Basin, which is designated as a nonattainment area for ozone, suspended particulate matter, and carbon monoxide. Due to the industrial nature of the former activities on the base, the project area is highly disturbed and does not provide suitable habitat for plants or wildlife other than those species tolerate of disturbed, urban environments. The area is underlain by approximately 1,400 feet of unconsolidated to semi-consolidated lagoon and shallow marine sediments with shallow water-bearing zones hydraulically separated from the deeper regional aquifer. While the base does lie within a coastal area of southern California that is known to be seismically active, it is not located within any Alquist-Priolo Earthquake Fault Zones and no active or potentially active fault is known to exist at the ground surface in, or immediately adjacent to, the project site. Compressible or expansive soil may be encountered at the base on a site-specific basis due to variations in near-surface sediments. While potentially fossil-bearing formations underlie the base, significant fossil occurrences have not yet

been identified at the project site and mineral resources are not known to occur in the project area. In addition, archaeological sites or human remains are not known to occur at the sites.

The area surrounding former MCAS Tustin is urban, suburban, and industrial in nature and the nearest proposed school is approximately one-quarter mile away from the project site. Major existing sources of noise in the area are motor vehicles and the railroad. Several highways are located within a mile of former MCAS Tustin. The three cities surrounding the base all restrict construction activities to Monday through Saturday, roughly during normal business hours. Normal public services and utilities functions are available and are provided either through county, city, or private companies. No large water bodies are located on site and storm water is managed by storm drains connected to large capacity drainage channels located adjacent to the base.

Analysis of Potential Impacts:

The proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further downgradient migration of VOC contamination.

Based on the analysis in the air, biological, cultural, hydrological, geological, and hazards sections, the short-term construction and excavation activities will have a less than significant effect on the environment because the project includes controls for any possible impacts from emissions, dust, noise, traffic, waste management, and treated water discharge. Impacts to wildlife are insignificant because the site is already a disturbed, urban industrialized site without suitable habitat for protected habitat and no rare or endangered plants or animals have been identified at the site, there will be no significant impacts to any identified or threatened species of concern No mineral resources exist at the site and agricultural resources will be significantly impacted. Paleontological or archeological resources are also not expected at the site, but if found, they will be assessed and appropriately managed. No significant geological or hydrological hazards are expected from the project since all activities will have controls in place to protect human health and safety in the event of seismic activity, earth movement, or extreme weather, and all treated water discharges will be performed according to federal, state, or locally applicable requirements or the DON will ensure that the discharge of treated groundwater complies with the ARARs as provided by Section 121 of CERCLA and the NCP, including the MCLS, beneficial uses and water quality objectives of the Santa Ana RWQCB.

Long-term groundwater extraction and treatment activities will not have a significant impact on the environment because extraction and treatment volumes are very low (an approximate discharge rate of 18 gpm for 6years, dropping to 12 gpm for years 6 through 30) and will not impact potable water resources or wells. Institutional controls on groundwater use in the area will also be implemented to protect human health and safety and ensure that VOC-contaminated groundwater is not used prior to achievement of groundwater cleanup goals.

Describe to what extent the project would:

a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

   As noted above, the proposed project is intended to reduce human risk associated with the potential use of groundwater from the shallow aquifer as a potable water source and prevent migration of VOCs to the regional aquifer, which is currently used as a potable water source. Additionally, the proposed project will hydraulically contain contaminated groundwater and eliminate further downgradient migration of VOC contamination. Project activities and controls will ensure that the quality of the environment is not further degraded. Plants and wildlife habitat or range will not be

substantially reduced because the site habitat is already fully disturbed and supports only those plan and animal species tolerant of disturbed urban conditions. No protected plan or wildlife species have been identified at the site. No fossils or archeological areas of significance have been identified at the project site.

b. Have impacts that are individually limited but cumulatively considerable. As used in the subsection, "cumulatively considerable".

["Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects]

Since all past and proposed remediation projects at former MCAS Tustin have been deemed to have less than significant impacts on the environment and no cumulative impacts, cumulatively considerate impacts from environmental remediation projects on former MCAS Tustin are not expected.

c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

The project site is currently unoccupied and the vacant residential area is approximately 500 feet away. The onsite management of hazardous wastes, materials, or emissions will not impact existing or proposed schools or proposed residences. In addition, the project is expected to have a less than significant impact on area traffic because about 10 trucks a day will use the truck route during contaminated soil transport and 15 trucks a day will use the truck route during imported fill transport. The truck route is an established truck route currently used by developers that avoids sensitive areas such as schools and residential areas. Project activities will not create a significant hazard to the public due to routing transport, use, or disposal of hazardous materials because the project will use, treat and manage hazardous material and hazardous waste in accordance with all applicable waste management requirements as well as worker safety requirements.

The project will utilize and institute hazardous materials and hazardous waste spill response plans and preventative measures, such as secondary containment, to control any upsets and accidents involving hazardous materials. Given the nature of the project, types of contaminants, and project controls to be enacted onsite, no significant hazard to the public is expected from project activities.

Project controls will ensure that the short-term excavation and construction activities will have no significant direct or indirect adverse effects on humans or the environment. In addition, the long-term project groundwater extraction and treatment activities will not have direct or indirect adverse effects on humans or the environment because the activities will remove contamination, not add to it, and institutional controls in the form of deed restrictions as discussed the Project Description and the Land Use Section will be used to ensure that VOC-contaminated groundwater is not used before groundwater cleanup goals are achieved.

References:

BNI, 2003
Tustin, et al, 1999

Findings of Significance:

- [ ] Potentially Significant Impact
- [ ] Potentially Significant Unless Mitigated
- [x] Less Than Significant Impact
- [ ] No Impact

V. DETERMINATION OF APPROPRIATE ENVIRONMENTAL DOCUMENT

On the basis of this Initial Study:

- [x] I find that the proposed project COULD NOT have a significant effect on the environment. A NEGATIVE DECLARATION will be prepared.

    - [ ] I find that although the proposed project COULD HAVE a significant effect on the environment, mitigation measures have been added to the project which would reduce these effects to less than significant levels. A NEGATIVE DECLARATION will be prepared.

    - [ ] I find that the proposed project COULD HAVE a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT will be prepared.

DTSC Project Manager Signature	Title	Telephone #	Date
	Haz Substance Scientist	714 4845418	3/12/04

DTSC Branch/ Unit Chief Signature	Title	Telephone #	Date
	Branch Chief	(714) 484-5456	3/12/04

ATTACHMENT A

INITIAL STUDY
REFERENCE LIST
FOR
OPERABLE UNIT 1A
INSTALLATION RESTORATION PROGRAM (IRP) SITE 13S
FORMER MARINE CORPS AIR STATION TUSTIN
PROPOSED PLAN/DRAFT REMEDIAL ACTION PLAN

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1. BNI (Bechtel National, Inc.), 1997a. Draft Final Remedial Investigation Report for Operable Units 1 and 2, Marine Corps Air Facility Tustin, California Prepared for Southwest Division Naval Facilities Engineering Command. November.

2. BNI (Bechtel National, Inc.), 1997b. Draft Final RCRA Facility Assessment Report Marine Corps Air Station Tustin, California Prepared for Southwest Division Naval Facilities Engineering Command. April.

3. BNI (Bechtel National, Inc.), 1999. Final Technical Memorandum limited Deep Hydropunch Investigation at IRP-13S, Marine Corps Air Facility Tustin, California. April.

4. BNI (Bechtel National, Inc.), 2003. Draft *Final Feasibility Study Report, Operable Unit 1A Former Marine Corps Air Station, Tustin, California*. Prepared for Southwest Division Naval Facilities Engineering Command. January.

5. Brown and Caldwell Consulting Engineers 1985. Initial Assessment Study Of Marine Corps Air Station Tustin, California. NEESA 13-075. Prepared for Naval Energy and Environmental Support Activity. September.

6. Jacobs Engineering Group Inc. 1992. Marine Corps Air Station (MCAS) Tustin, California, Facility Assessment Revised Preliminary Review/Draft Visual Site Inspection Report. Prepared for Southwest Division Naval Facilities Engineering Command. March.

7. CARB (California Air Resources Board), 2001. "2000 State Area Designation Maps of California." Updated February 15, 2001. http://www.arb.ca.gov/desig/adm/adm.htm. (May 14, 2001).

8. CDFG (California Department of Fish and Game), Tustin Quadrant, July 14, 2003. Natural Diversity Database, Wildlife Conservation Division.

9. DTSC (Department of Toxic Substances Control), 2001. *Workbook for Conducting Initial Studies under the California Environmental Quality Act (CEQA)*.

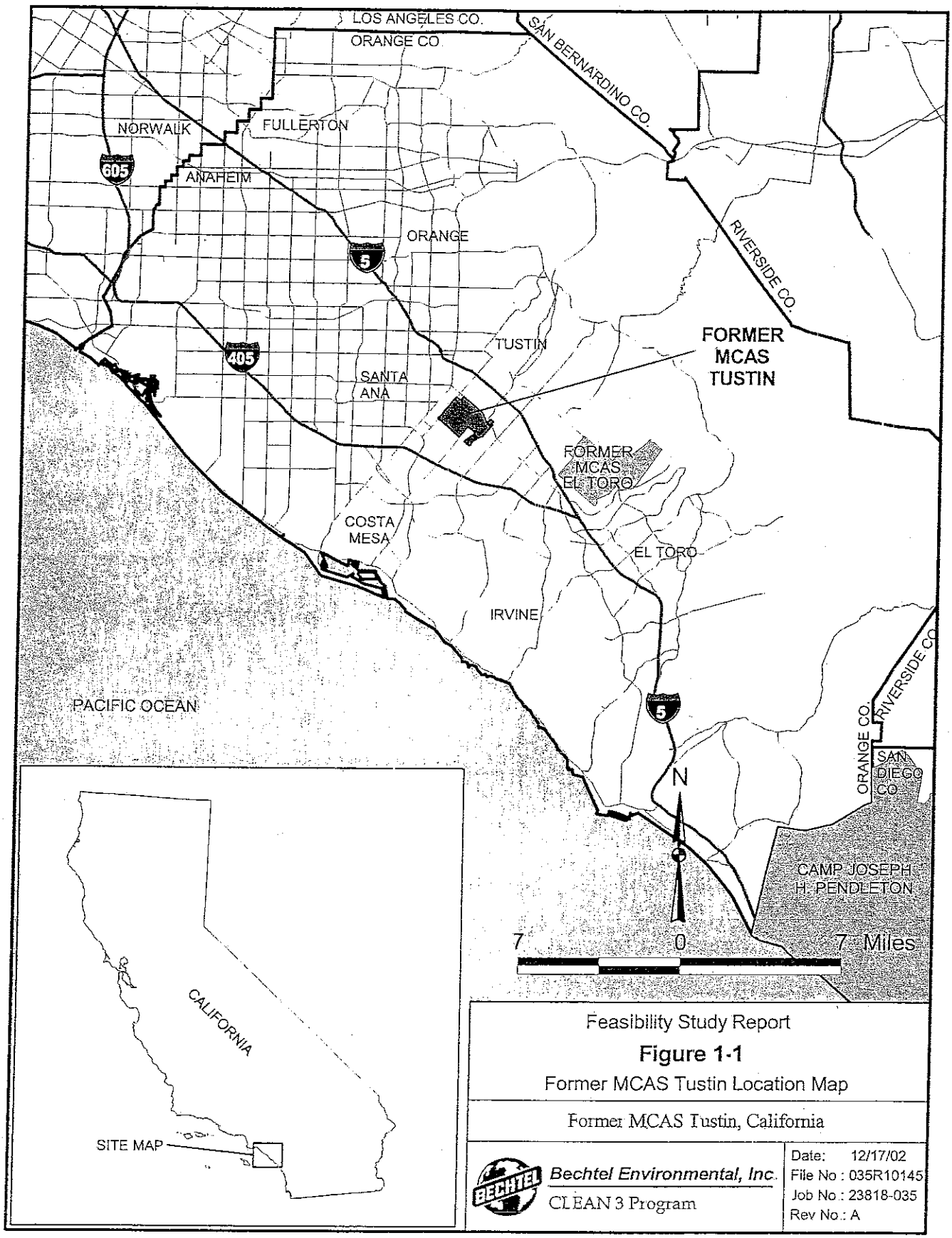
10. EPA (United States Environmental Protection Agency), 2000. Region 9 Preliminary Remediation Goals (PRGs) Table, 2000 Update November.

11. Tustin, et al. (City of Tustin and United States Department of the Navy), 1999. *Final Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse of MCAS Tustin, Tustin and Irvine, California*. December.

ATTACHMENT B

FORMER MCAS TUSTIN LOCATION MAP

Figure 1-1, From Draft *Final Feasibility Study Report, Operable Unit 1A Marine Corps Air Station, Tustin, California*. Prepared by Bechtel National, Inc for Southwest Division Naval Facilities Engineering Command. January, 2003



Feasibility Study Report

Figure 1-1

Former MCAS Tustin Location Map

Former MCAS Tustin, California

Bechtel Environmental, Inc.

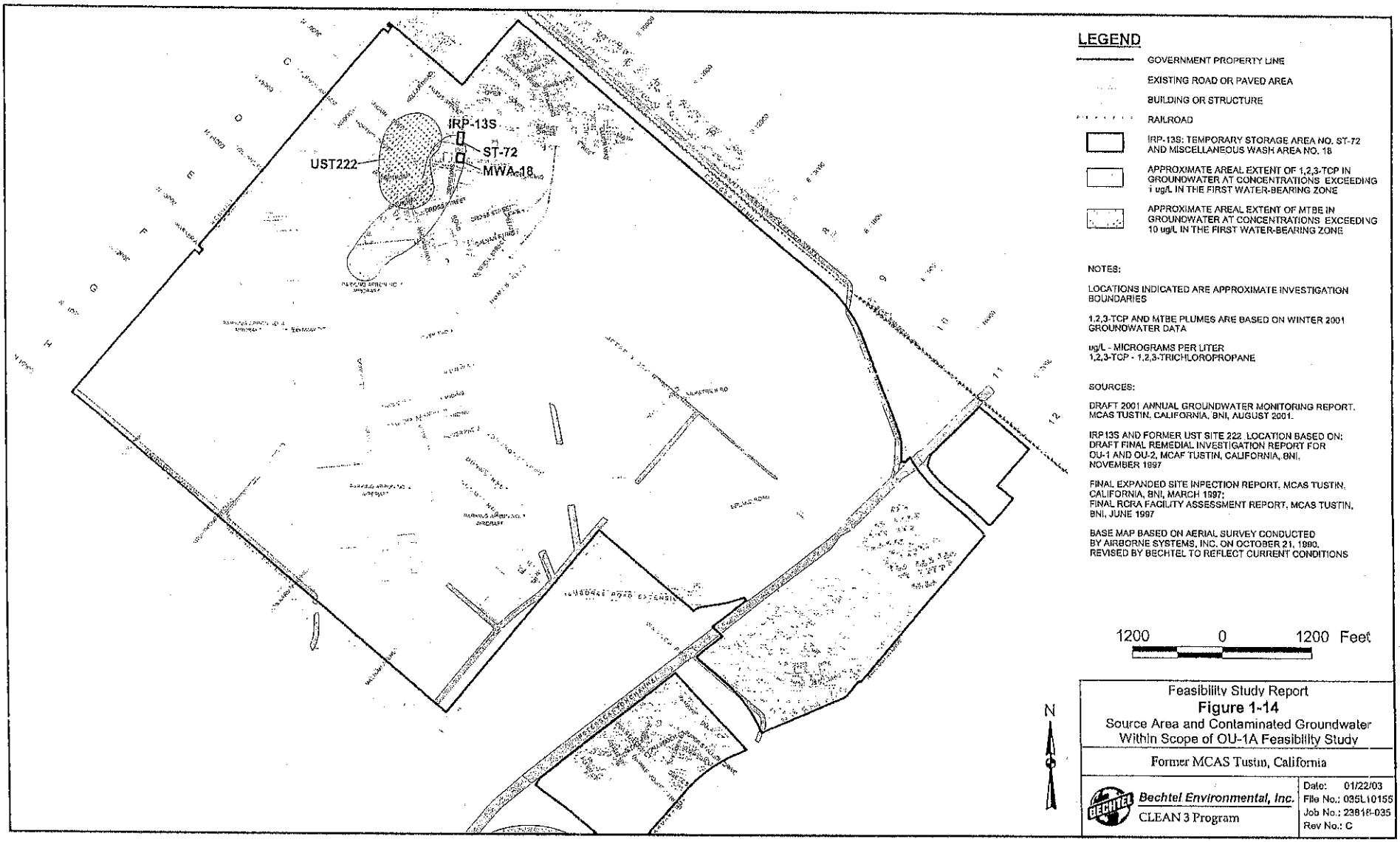
CLEAN 3 Program

Date: 12/17/02
File No : 035R10145
Job No : 23818-035
Rev No.: A

ATTACHMENT C

Operable Unit 1A, Installation and Restoration Site 13S location Map

Figure 1-14, From Draft *Final Feasibility Study Report, Operable Unit 1A Former Marine Corps Air Station, Tustin, California*. Prepared by Bechtel National, Inc for Southwest Division Naval Facilities Engineering Command January, 2003.



Feasibility Study Report

Figure 1-14

Source Area and Contaminated Groundwater Within Scope of OU-1A Feasibility Study

Former MCAS Tustin, California

Bechtel Environmental, Inc.

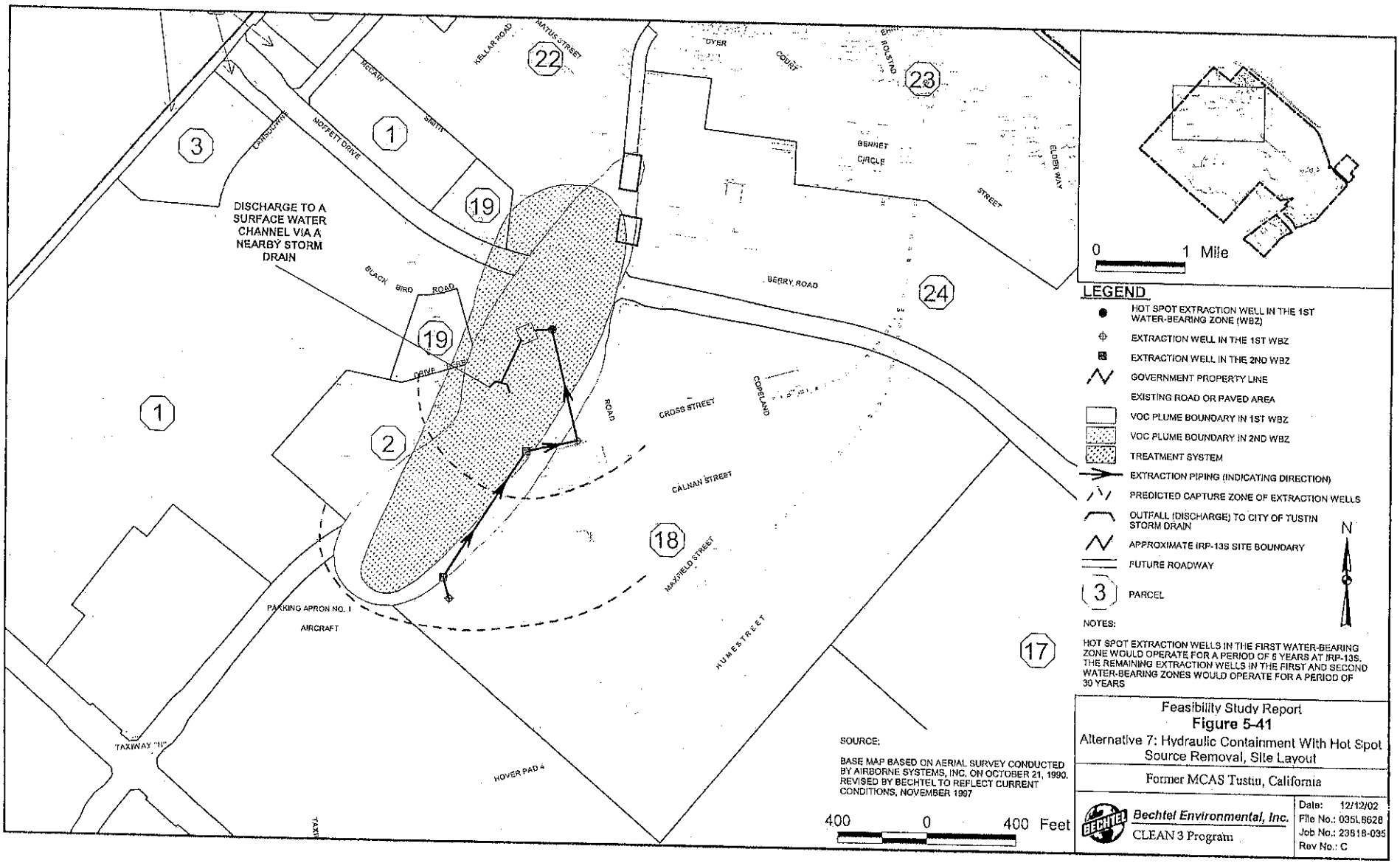
CLEAN 3 Program

Date: 01/22/03
File No.: 035L10155
Job No.: 23618-035
Rev No.: C

ATTACHMENT D

Alternative 7 Hydraulic Containment with Hot-spot Source Removal Site Layout

Figure 5-41, From Draft *Final Feasibility Study Report, Operable Unit 1A Former Marine Corps Air Station, Tustin, California*. Prepared by Bechtel National, Inc for Southwest Division Naval Facilities Engineering Command January, 2003.



Feasibility Study Report

Figure 5-41

Alternative 7: Hydraulic Containment With Hot Spot Source Removal, Site Layout

Former MCAS Tustin, California

Bechtel Environmental, Inc.

CLEAN 3 Program

Date: 12/12/02
File No.: 035L8628
Job No.: 23818-035
Rev No.: C

APENDIX A
PROJECT AIR POLLUTANT EMISSION CALCULATIONS
OU1A IRP Site 13S

Estimated emissions for the proposed soil remediation project were calculated from the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook (1993). The proposed action consists of excavation of approximately 3,000 cubic yards of contaminated soil from one area (covering approximately 0.7acres) of hot spot source soils. Following excavation, the contaminated soil will be placed directly on trucks and transported to a class 1 off site facility for disposal (Kettleman City Hazardous Waste Disposal Facility)

The followings data and assumptions were used in performing Phase I estimated emission calculations:

•	Project duration	30 days
•	Maximum truck loads of material transported each day	10 truck loads
•	Total disturbed area	0.7 acre
•	Round trip distance in SCAQMD area to export contaminated soil	200 miles
	Average speed off site	45 mph
•	Construction equipment used	
	1 Backhoe	8 hrs daily
	1 Loader	8 hrs daily
	1 Water truck	4 hrs daily
•	Maximum amount of material handled each day	225 tons
•	Reduction in PM10 emission due to watering	50%
•	Average daily wind speeds (estimated)	11 miles per hr
•	8 Passenger cars per day, 50 miles roundtrip	400 miles daily
•	10 Trucks per day, 200 miles roundtrip in SCAQMD area	2,000 miles/day

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Table A-1 in this appendix A presents the results of the estimated calculations. The estimated emissions presented below are based on standard equipment and mitigation measures. As shown in Table A-1, all project pollutant emissions estimated during excavation and soil exporting phases will be below the threshold concentrations. Under such conditions, therefore, the project will not have significant air quality impacts during excavation and soil exporting activities.

Table A-1
Summary of Emission Estimation

Source	Pollutants (lbs/day)				
	CO	**ROC**	**NOX**	**SOX**	**PM10**
Trucks	46.18	6.296	59.214	0.486	1.922
Construction equipment	42.539	4.5884	32.88	2.752	3.0852
Soil disturbance	N/A	N/A	N/A	N/A	0.924
Soil handling	N/A	N/A	N/A	N/A	46.872
Soil Pushing	N/A	N/A	N/A	N/A	4.09
Total Emissions	**88.719**	**10.8844**	**92.094**	**3.238**	**56.8932**
Significant Thresholds	550.00	75	100	150	150

Construction Equipment
(Table A9-8-A (SCAQMD, 1993)
Emission Factors Construction Equipment

	Emissions (lbs/hr)				
	CO	ROC	NOX	SOX	PM10
1 Backhoe	3.58	0.18	1.27	0.09	0.14
1 Loader	0.57	0.23	1.90	0.18	0.17
Miscellaneous	0.675	0.15	1.7	0.143	0.14
Passenger 1 Car (Lbs/Mile)	0.016559	0.001771	0.0018	0.000010	0.000113

Construction Equipment Emissions (lbs/day)					
	CO	ROC	NOX	SOX	PM10
1 Backhoe	28.64	1.44	10.16	0.72	1.12
1 Loader	4.576	1.84	15.2	1.456	1.36
Miscellaneous	2.7	0.6	6.8	0.572	0.56
8 Passenger Cars	6.6236	0.7084	0.72	0.004	0.0452
Total Construction Equipment Emission/day	**42.539**	**4.5884**	**32.88**	**2.752**	**3.0852**

Miscellaneous emission factors were used after consulting with SCAQMD staff for Watering operations

Delivery Trucks
Scenario Year 2004-Model Years 1965 to 2004
Emission Factors from ARB website EMFAC 2002

Delivery Trucks Emissions Total (lbs/miles)					
	CO	ROC	NOX	SOX	PM10
Delivery Trucks	0.02309	0.003148	0.029607	0.000243	0.000961

Delivery Trucks Total Emissions (lbs/day)					
Total	CO	ROC	NOX	SOX	PM10
Delivery Trucks Emissions/day	46.18	6.296	59.214	0.486	1.922

Soil disturbance (PM10)
(Table A9-9 (SCAQMD,1993))

E=26.4 lbs/day/acre
0.7 acre disturbed over 20 days
Therefore 0.7 acre/20 days
Therefore E=26.4 x 0 7/20 = 0.924 lbs/day

Soil Handling (PM10)
(Table A9-9G (SCAQMD,1993))

E=[0.00112{[G/5]1.3}/{[H/2]1.4}] x(I /J)

Where
E= Emission PM10
G=Mean wind speed (Average Daily) = 11 miles/hr
H=Moisture Content of Surface Material = 0.10
I=Maximum pounds of Soil Handled Each Day=4500000
J=Conversion of Pounds to tons
2000

Therefore

E=0.00112 x (2.79/0.0150)x 225
= 46.872 Pounds lbs/day

Soil Pushing (PM10)
(Table A9-9F (SCAQMD,1993))

From the Equation on Page A9-100

Where
E= Emission PM10
G=Silt Content
H=Moisture Content of Surface Material = 0.10
I=2.2046
J=Hours of operation= 8

Therefore

E= .45 x (0.02054/0.0398)x 2.2046x8
= 4.09 Pounds lbs/day

APPENDIX B

Marine Corps Air Station Site 13S, Operable Unit 1A
Comments Received During the Public Comment Period

Comments by: Dana Ogdon, Program Manager, Community Redevelopment Agency, City of Tustin, Dated August 26, 2003

1. Page 1 of the Draft Negative Declaration, Project Location - The section incorrectly states that the former Marine Corps Air Station (MCAS) Tustin is located "within the cities of Tustin, Santa Ana and Irvine". No portion of the former MCAS Tustin is located within the City of Santa Ana.

Response: DTSC has revised the Draft Negative Declaration to reflect this comment, see page 1 of the Revised Draft Negative Declaration.

2. Page 1 of the Special Initial Study, Site Location - Please see comment 1, above.

Response: DTSC has revised the Initial Study to reflect this comment, see page 1 of the Revised Initial Study.

3. Page 20 of the Special Initial Study, Cultural Resources - Section "b" states that the proposed project will not cause a substantial adverse change to archaeological resources since "archeological resources and human remains are not known to occur at the project location". The reference for this statement misidentified on page 21 is the Final Environmental Impact Statement/Environmental Impact Report (EIS/BIR) for the Disposal and Reuse of MCAS Tustin." Section "d" indicates that human remains are not known to exist at the project location. "Please note that Section 3.6 of the Final EIS/EIR for MCAS Tustin indicates that several archaeological surveys have been completed at the former MCAS Tustin and that one location (CA-ORA-381) was recorded as containing evidence of prehistoric human activities at the site. Although no other archaeological resources are known to exist at the former Air Station, direct impacts to such resources may happen whenever earthwork activities occur. Please revise the sections to include language identical to EIS/EIR Mitigation Measure Arch-2 to ensure that a county-certified archaeologist is retained if buried resources (not only human remains) are found during excavation. Native American consultation must also be initiated during this process"

Response: The above comments are noted. The EIS/EIR prepared by the City of Tustin, Section 4.6.3 Impacts, states that site (CA-ORA-381) is not considered significant due to its lack of integrity. The original initial study states that "If significant fossils are discovered during project grading and construction activities, local paleontological experts (such as university staff) will be called to assess impacts and provide guidance on how to proceed. In addition, the initial study mentions that if

5. Page 35 of the Special Initial Study, Land Use and Planning (section "a") - the section indicates that the proposed project is "to remediate VOC-contaminated soil and groundwater and is consistent with applicable environmental mitigation project requirements " However, the response does not adequately address the Land Use and Planning question required by the California Environmental Quality Act (CEQA). Specifically, CEQA requires the project proponent to indicate whether the proposed project's activities would "conflict with any applicable land use plan, policy, or regulation or an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance)". The Final Feasibility Study identified institutional controls that were proposed to be recorded on the deeds for property affected by the project. The institutional controls listed in the Feasibility Study appear to be supportive of the approved MCAS Tustin Specific Plan zoning regulations and General Plan designation for the site. However, land use and planning impacts could occur to the extent that these institutional controls are either added to or revised by either the Navy or Cal EPA. Future additions or revisions to the previously identified institutional controls that negatively impact the planned reuse of MCAS Tustin would require Cal EPA to conduct additional environmental impact analysis and re-circulate the Initial Study. Please revise the existing text to address this concern.

Response: DTSC will make a determination on the necessity of additional environmental analysis should any changes to land use restrictions be requested in the future.

6. Page 44 of the Special Initial Study, Recreation (Description of Environmental Setting) – the section states that the project site is "in the future Community Park." Please provide additional narrative that indicates that the 27-acre project site is located partially in the City of Tustin's planned Community Park (Parcel 22), the County of Orange's planned Urban Regional Park (Parcel 18), the South Orange County Community College District's planned educational use (Parcels I and 19), the Orange County Sheriff's Department educational use (Parcel 2), and private residential development (Parcels 16 and 24).

Response: The Recreation Section of the revised Initial Study will reflect this additional narrative.

7. Page 47 of the Special Initial Study, Utilities and Service Systems (Analysis of Potential Impacts) - the section states that a portable thermal desorption unit (TDU) will be brought to the project site to thermally treat 1,750 cubic yards of VOC-contaminated soil. As currently proposed, the TDU will require 870,000 cubic feet of natural gas to perform soil remediation as planned. Currently, no gas service is provided to the site. Please revise the narrative to address alternative solutions needed to address the current lack of natural gas service at the site (i.e. temporary or portable storage tanks, off-site trucking of soil, etc.) and include narrative in other Initial Study impact categories to address any additional impacts related to these potential alternatives (e.g., Hazards and Hazardous Materials, traffic, air quality, etc.).

3. The mitigations are not specific as to the disposition of the cultural resource collection that may be discovered, during this project. We suggest that the DTSC follow the Orange County Board of Supervisors lead in requiring any collections removed from the site during project development, be donated to an institution "within Orange County." This language is found in the County's Standard Conditions of Approval.

Response: DTSC will insure that the work plan for the excavations will include provisions for retaining a county-certified archaeologist, and a county-certified paleontologist. If buried resources and/or human remains are found during excavation at the site, county-certified archaeologist will need to assess the site significance and perform the appropriate mitigation. Native American view point will be also considered during this process. If burials are discovered, the Orange County Sheriff-Coroner Department will be contacted and requested to be present during removal of human remains pursuant to Section 2050.5 of the California Health and Safety Code. If remains are determined to be prehistoric, the Native American Heritage Commission (NAHC) will be notified. The NAHC will then designate a most likely descendant (MLD).

4. The County's standard conditions require that fossils be prepared to the point of identification.

Response: Comment noted. Project proponent is informed of this requirement.

5. The project proponent should be prepared to pay curation fees should they be required at the institution or facility where the materials are to be donated. Citation fees support ongoing storage and maintenance of the collection as well as its proper care and in certain cases, scientific study and/or exhibition.

Response: Comment noted. Project proponent is informed of this requirement.

WASTE MANAGEMENT

Unacceptable Materials

6. Orange County solid waste landfills are not permitted to accept wastes contaminated with toxic or hazardous materials, or wastes having the moisture content of greater than 50%. Wastes generated during remediation activities that are required to be disposed off-site consisting of hazardous materials and liquids, must be transported to facilities that are permitted to accept them. If additional clarification is needed, please contact a County Materials Regulation, Specialist at (714) 834-4000.

Response: TCE contaminated soil will be excavated and transported to an approved class I off-site disposal facility. (Kettleman City Hazardous Waste Disposal Facility).

WATER QUALITY

8. R8-2002-0010 requires the County and Cities to prohibit the discharge of non-storm water into the MS4 system unless authorized by an NPDES permit. This supports the Regional Board's contention that an NPDES permit is required for this project.

Response: Regional Water Quality Control Board staffs are currently revising the waste discharge permit for Tustin MCAS and are including discharge limitations for selenium and total nitrogen. The Navy has indicated its intent to comply with the substantive requirements of waste discharge requirements issued by the RWQCB.

Page 31 states that construction dewatering is anticipated to be necessary. Order No. 98-67, issued by the Santa Ana Regional Water Quality Control Board (Regional Board) to regulate de minimus discharges, including construction dewatering, was recently updated by Order No. R8-2003-0061 at the August 22, 2003 Regional Board meeting. The revised Order significantly impacts construction dewatering in the San Diego Creek and Newport Bay watersheds due to water quality concerns impacting the TMDLs for toxic pollutants, nutrients, and sediment. The revised Order states:

"Monitoring data indicate that certain types of discharges regulated under Order 98-67 have the potential to affect surface waters within the watershed and would not likely comply with the TMDLs. Therefore, it is appropriate to regulate these discharges under a separate general permit or individual permits. Accordingly, this Order does not regulate, discharges to the Newport Bay watershed from, well installation, well development, well test pumping and purging, aquifer testing, construction dewatering (emphasis added), and subterranean seepage within the watershed."

Order R8-2003-0061 further states that Order No. 98-67 retrains in full force and effect for such discharges until appropriate waste discharge requirements are adopted. In addition, these discharges will be reviewed by the Regional Board to determine if it is reasonable for such discharges to cease until such time that appropriate waste discharge requirements are adopted. It should further be noted that the Executive Officer can withdraw authorization to discharge under Order 98-67 when found appropriate.

Response: Given that contaminants, including volatile organic compounds and selenium, are expected to be present in construction dewatering discharges from the site, these discharges would likely be regulated under individual discharge requirements rather than the general de minimums permit. The Navy has indicated its intent to comply with the substantive requirements of waste discharge requirements issued by the RWQCB.

10. Mitigation for the construction phase of the project should include the following as general or specific notes on project plan sheets:

i. Sediment from areas disturbed by construction shall be retained on site using structural controls to the maximum extent practicable.

Response: For the project work plan, the Navy will include the above mitigation measures in the contract specifications for the proposed work as applicable. These project controls are also included in the Revised Initial Study.

Comments by: Richard A. Diamond, Principal Engineer, Irvine Ranch Water District, Dated September 8, 2003

IRWD Sub Area Master Plan (SAMP) and Plan of Works (POW)

1. IRWD prepared a SAMP in 1999 that analyzed the envisioned development at that time. A SAMP is prepared to provide an accurate description of proposed development's water and wastewater demands, the facilities required, and locations and alignments necessary for the systems. Currently, a POW is being prepared that refines and complements the SAMP's assumptions. In addition to existing water and sewer facilities on the base, the SAMP identifies the need for the construction of new facilities to serve redevelopment on the base. Some of these facilities appear to be in close proximity to the project site. As discussed in more detail below, potential conflicts between these facilities and the subject project must be resolved prior to the initiation of construction of IRWD facilities. To the extent that DTSC is coordinating the subject activity with the City of Tustin as the redevelopment agency, IRWD recommends DTSC consult with the City to ensure that conflicts with proposed IRWD pipelines are avoided. For questions regarding the SAMP or POW, please call Malcolm Cortez, Engineer at (949) 453-5551.

RESPONSE: City of Tustin and the Navy are working together to resolve any issues regarding construction of IRWD facilities.

Proposed Cleanup of Groundwater and Soil

2. IRWD's primary concern surrounds the issues related to contaminated soil, groundwater, and hazardous waste. To construct its facilities, IRWD requires fully remediated sites and alignments, and must be held harmless for any responsibility should a contaminated environment be encountered. The duration of some mitigation activities cited in the ND suggest that conflict will occur with the proposed IRWD construction schedule (construction of Phase 1 facilities is scheduled for spring 2004). If contamination is encountered during the construction phases, an authority other than IRWD will be responsible for complete cleanup. Furthermore, in the event of work stoppage as a result of contaminated soil, groundwater, or materials, the responsible authority would also be responsible for the costs associated and remobilization by IRWD or its designee. Please contact Steve Malloy, Principal Engineer at (949) 453-5570 regarding the potential for schedule and citing conflicts.

RESPONSE: The Navy will consult with the IRWD during remedial design phase of this project with regard to minimizing the impacts and coordination of the construction schedules to avoid any conflicts.

Response: Comment noted. See previous response related to selenium.

Groundwater Pumping

5. In the project description, the ND states that institutional controls such as deed restrictions will be used to restrict future use of contaminated groundwater. IRWD supports this action; however DTSC should be aware of preexisting rights by IRWD regarding well sites on the property. IRWD has agreed with the City of Tustin (agreement dated December 16, 1996) that IRWD's existing well sites can be relocated and consolidated to another location on the base, with the intention of IRWD developing facilities to produce domestic water to meet demands associated with redevelopment. The proposed deed restrictions and institutional controls should not interfere or conflict with these preexisting rights. It is unclear from the ND whether physical limitations or timing present any specific potential conflicts. The IRWD proposal to develop groundwater production facilities off the base property (generally to the west) should also be considered.

RESPONSE: The deed restrictions prohibiting new well installations would only apply to the Area of Institutional Controls. The agreement between the City and IRWD provides for the relocation of well sites to occur outside of this area.